

DEFENSE LOGISTICS AGENCY INFO SVCS MKT

1989

INPUT

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**Federal Information Systems and Service
Program (FISSP)**

***Defense Logistics Agency Information
Services Market***

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Abstract

Information systems spending at the Defense Logistics Agency will grow sharply in FY1990 and FY1991, as a result of heavy equipment purchases. It will then drop sharply in FY1992 and beyond. Thus, INPUT expects the overall market for contracted information systems and services to grow from \$236 million in FY1990 to \$250 million in FY1995, at a low CAGR of 1%. Growth rates for software products, systems integration, and professional services will grow at much higher rates.

This report focuses on the changes in acquisitions of information systems in response to the agency's new strategies for implementing the Logistics Systems Modernization Program and the agency's resulting new internal organization.

The *Defense Logistics Agency Information Services Market* report offers insight to vendors to assist them in establishing or revising marketing strategies and selecting addressable opportunities.

This report contains 157 pages, including 74 exhibits.



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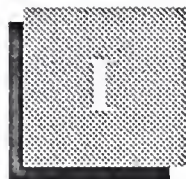
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Introduction

The Defense Logistics Agency Information Services Market is part of INPUT's continuing series on key federal agencies that are expected to play a major role in the federal information systems market. This study was undertaken in response to the rapid changes in DLA information systems acquisitions practices and their effects on client sales activities. Insight into agency requirements and perceptions, and contractor guidance are offered to assist vendors in planning their marketing strategies to compete in the DLA Information Services Market.

The Defense Logistics Agency Information Services Market report is provided through INPUT's Federal Information Systems and Services Program (FISSP). Reports issued through this program are designed to assist INPUT's U.S. clients in satisfying future federal government needs for computer-based information systems and services.

The report's findings are based on research and analysis of several sources, including:

- OMB/GSA/NIST Five-Year Information Technology Plans for 1989-1994, and available agency plans.
- Interviews with leading information systems and services vendors.
- Interviews with DLA Headquarters Policy officials and DLA field program managers and users.
- The DLA 1988 Conceptual Functional Requirements and other agency documents.

A**Scope**

The period of interest for this report is GFY1990 to 1994, although the forecast is provided through 1995. Vendor interviewees were selected because they were either identified as contractors of record for existing contracts with the agency or listed in INPUT's vendor analysis data base for 1989. Agency interviewees were identified with assistance from the DLA Office of Information Systems and Technology.

For the purposes of this study, INPUT defined information systems and services to encompass the following categories of vendor products and services (see Appendix F for detailed explanations of each category):

- Processing Services
- Network Services
- Software Products
- Professional Services
- Turnkey Systems
- Systems Integration
- Hardware

B**Methodology**

The OMB/GSA/NIST Five-Year Plan was analyzed for programs to be initiated during the period of interest of this report and for information technology obligations for the agency. INPUT also researched agency long-range plans and the DLA 1988 Conceptual Functional Requirements to identify funding changes and program initiatives. Other internal agency documents were used to provide background information on the agency.

The agency questionnaires were designed to acquire data on agency programs, organization, funding patterns, and trends affecting the acquisition of information systems and services.

The vendor questionnaire was designed to acquire information on the industry's perspectives of the market for information systems and services at DLA.

For comparison, all three questionnaires included some similar questions about contracting policy, preferences, and selection criteria.

The questionnaires developed for agency respondents and vendors are included in Appendix F.

Headquarters personnel that were selected for interview were policy officials.

DLA field respondents included Office of Telecommunications and Information Systems (OTIS) directors and program managers/users at Primary Level Field Activities (PLFAs).

Industry respondents selected for interview included marketing executives and corporate executives.

C

Report Organization

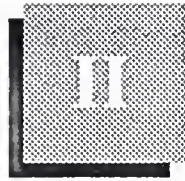
This report consists of six additional chapters:

- Chapter II is an Executive Overview describing the major points and findings of this report.
- Chapter III focuses on the mission and organization of the agency, along with trends impacting DLA specifically and the agency's preferences for contractors.
- Chapter IV provides the market forecast for each segment of the DLA information systems and services market.
- Chapter V presents the major programs and initiatives underway at the agency.
- Chapter VI summarizes the acquisition plans and procedures used by the agency for ADP/T resources.
- Chapter VII presents the vendors' perspectives on the DLA information systems market.

Several appendixes are also provided:

- Interview Profiles
- Definitions
- Glossary of Acronyms
- Policies, Regulations, and Standards
- Related INPUT Reports
- Questionnaires

Following the appendixes is a description of INPUT and its programs and services.



Executive Overview

A

DLA Modernization Factors

Since its founding in the 1950s, the organization now called the Defense Logistics Agency (DLA) has relied on information-intensive processes and practices to perform its mission. As might be expected, computers have played a critical role in the growth and effectiveness of DLA. Its information-intensive needs readily lent themselves to computerized automation, and still do so today. As DLA enters the 1990s, its dependence on advanced information systems will increase. Various factors contributing to this dependence are readily apparent, as listed in Exhibit II-1.

EXHIBIT II-1

DLA Modernization Factors

- Increasing budget constraints
- Continued mission growth
- Expanding end-user computing
- Growing computer literacy
- Urgency of major initiatives

Unlike the situation at the beginning of this decade, most defense agencies, including DLA, are facing increasingly severe budget constraints. Yet in most cases productivity gains can be realized only through computer-aided automation. This situation requires innovative and creative

solutions from DLA executives and their contractors that will meet agency productivity and automation growth needs.

Mission growth will exacerbate the problem. At the writing of this report, projected mission changes were expected by the agency. DLA anticipates that these additional assignments may affect information processing requirements of the agency. As human and financial resources continue to contract, other agencies are looking more and more to DLA to support them by providing additional efficient logistics and technical functions that make their own activities more productive. Further, end-user computing, combined with growing computer literacy, is leading to the installation of one or more micros and/or workstations on every knowledge worker's desk. Given the diverse nature of DLA's operations, a real potential exists for inconsistent, nonstandard systems. DLA must take the necessary steps to manage its mission growth without inhibiting the productivity that end-user computing fosters.

Finally, within the next two or three years, DLA will implement several major initiatives, including the following:

- Data base redesign at the Defense Logistics Services Center
- Defense Network Control System at the Defense Automated Addressing Systems Office
- The Standard Automated Materiel Management System

The simultaneous implementation of these major programs and many minor initiatives will exacerbate the management difficulties for agency executives, who must successfully finesse these pressures to realize the benefits of DLA modernization.

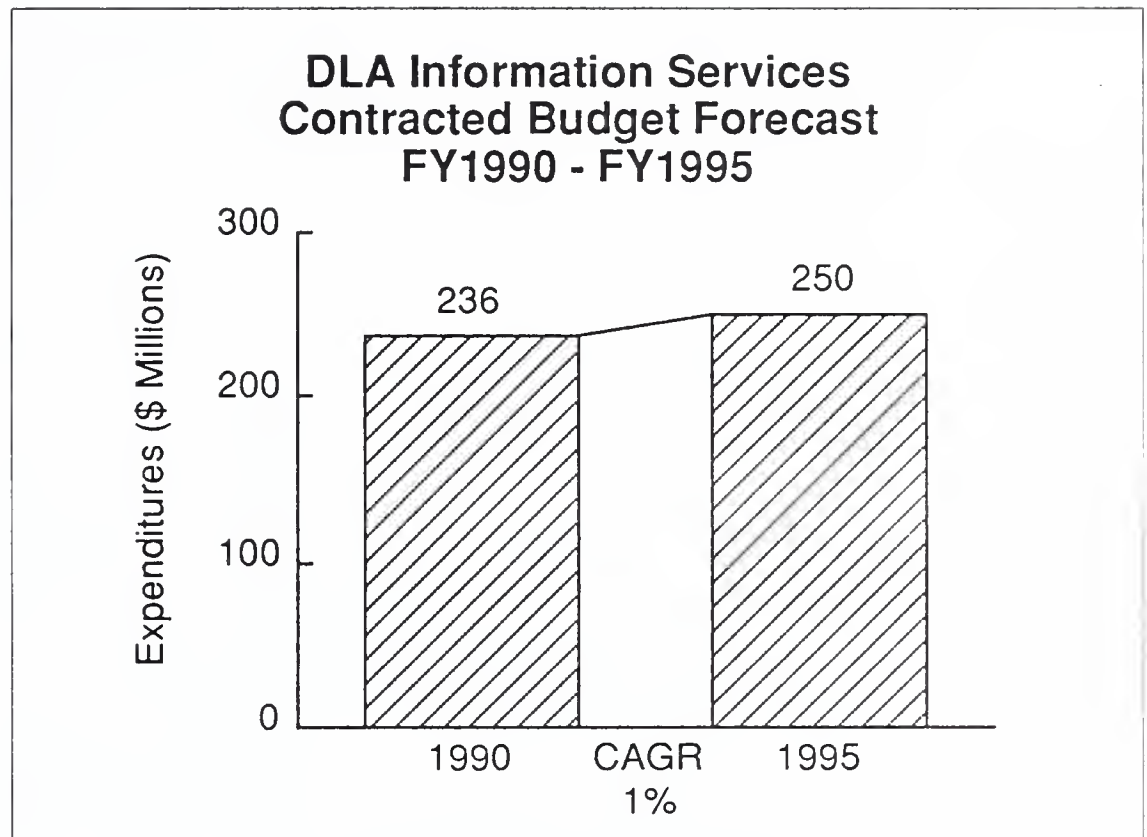
B

DLA Market Forecast FY1990- FY1995

INPUT estimates that the contracted portion of DLA's information systems budget will grow from \$236 million in FY1990 to \$250 million in FY1995, at a CAGR of only 1%, as shown in Exhibit II-2. This relatively low growth rate results from several simultaneous factors:

- Defense budget constraints, especially IT budgets, are dampening budget growth in practically all defense agencies.
- FY1990 and FY1991 equipment spending will be unusually high, supporting several major initiatives, and will nearly double the spending of the immediately preceding years .
- After FY1992, equipment spending will drop sharply, reducing DLA's overall growth rate.

EXHIBIT II-2



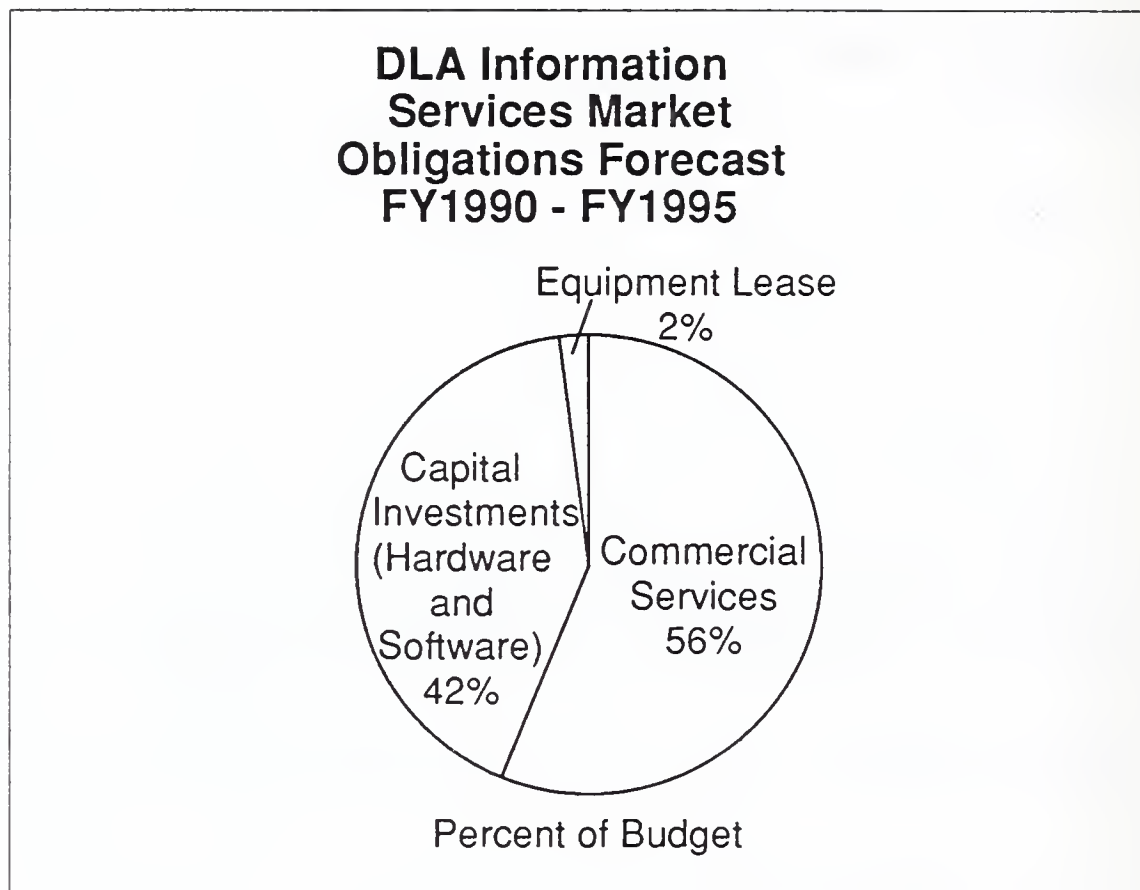
Other delivery modes, including software products, systems integration, and professional services, will grow at a much higher rate over the next five years.

As INPUT developed this report, DLA's budget status in Congress was changing frequently. The House Appropriations Committee had voted sharp cuts in DLA's IT budget. The Senate Appropriations Committee restored some of these cuts, and the budget was expected to go to conference committee. INPUT based its forecast on DLA's OMB A-11 budget submission, information on individual initiatives, interviews with agency executives, and various reports and articles from secondary sources. However, should overall funding or a major program be changed drastically, the forecast might require some adjustment. For example, if funding for major initiatives is stretched out, the five-year growth rate may become considerably higher.

C

Obligations Forecast . In contracting for Information Systems (IS) support, DLA will rely primarily on commercial services over the next five years. Exhibit II-3 shows the expected relationship between commercial services, equipment lease, and capital investments. However, this relationship is not uniform over the time period. In FY1990 and FY1991, DLA's capital investment is expected to be quite high, reflecting major acquisitions planned at DAASO, DLSC, and other locations. Hardware spending should begin to decline in 1992, which subsequently should account for a lower percentage of the agency's overall budget. In fact, DLA's end-user computing initiatives could account for much of the spending in the out years.

EXHIBIT II-3

**D****Trends in Using
Information Systems**

A variety of trends are driving DLA's plans for information systems and services (see Exhibit II-4). Greater end-user computing will improve productivity at Primary Level Field Activities throughout DLA. Local offices are aiming toward a paperless environment. Although they are not likely to achieve it completely, they will at least move substantially in that direction.

Greater end-user computing within DLA will also lead to increased responsibility and workload for the end user. Currently, 30,000 DLA personnel can access information from their desktops. The number of personnel with access is expected to double in the next three years. DLA will be able to accommodate greater customer demands and to integrate depots and supply and service centers.

DLA is also expected to grow more dependent on Electronic Data Interchange (EDI) technology to promote efficiency in fulfilling customer requirements and in dealing with its contractors. Historically, DLA has been one of the leading agencies in trying out EDI techniques. It is also active in a related program, the Computer-aided Acquisition and Logistics System (CALS), which will further reduce paperwork at DLA.

EXHIBIT II-4

DLA Information Systems Trends

- End-user/departmental computing
 - Bar coding
 - Paperless environment
 - Increased user access
- Increased responsibility/workload
- EDI/CALS

E**Major Information System Initiatives**

DLA's IS plans for the coming years focus on major replacements of existing systems. In some cases, a single system will be used to replace several existing systems. Exhibit II-5 lists some of these major initiatives.

EXHIBIT II-5

Major Information Systems Initiatives

- DLSC/DIDS (DLA Inventory Data System)
- DAAS/DARP (DAAS ADPE Replacement and Modernization Program)
- SAMMS I3 (SAMMS Immediate Improvement Initiative)

- The Data Base Redesign project of DIDS (DLA Inventory Data System) at DLSC (Defense Logistics Service Center) is expected to be awarded shortly.

- The DAAS (Defense Automatic Addressing System) ADPE Replacement and Modernization Program (DARP) includes the DAAS Network Control System (DNCS currently in bidding), and the Logistics Information Processing System (LIPS), to be released in 1990.
- The SAMMS (Standard Automated Materiel Management System) Immediate Improvement Initiative (I3) will establish a new data base computer platform and an on-line processing system that will standardize data shared across all subsystems of supply operations.

These three systems account for a sharp increase in near-term hardware spending at DLA. IT spending is expected to decline in the out-years.

F

Leading Equipment Suppliers

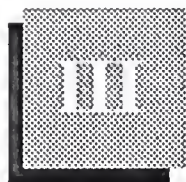
Exhibit II-6 lists the leading equipment suppliers, based on FY1987 and FY1988 obligations, to DLA. Zenith did more equipment business with DLA than all other companies combined—69%—reflecting its success with the Air Force Desktop II contract at DLA. Falcon's business came mainly from a single contract, the Distributed Minicomputer System (DMINS), accounting for 8% of DLA's expenditures during FY1987 and FY1988. Under DMINS, Falcon supplied UNIX-based Gould processors to DLA, for use primarily in shared logic office systems.

EXHIBIT II-6

Leading Equipment Suppliers

Vendor	FY1987 - FY1988 Agency Expenditures (\$ Millions)
Zenith	52
Falcon	6
IBM	5
Xerox	5
Bull HN	2

Note: Overall agency expenditures were \$75 million.



Agency Overview

This chapter presents a short historical perspective on DLA and discusses the agency's worldwide mission and functional organization. The ADP/T oversight role of the Office of Information Systems and Technology (DLA-Z), and its recent reorganization are discussed in more detail. The agency's current hardware environment and the trends INPUT believes are affecting ADP/T modernization and acquisition are also included.

A

Mission and Organization

1. Background

The evolution of the Defense Logistics Agency began with a presidential commission's recommendations to establish centralized management of common military logistics support and uniform financial management practices shortly after World War II. In response, the DoD developed organizations during the 1950s to manage supplies and some support services. The joint Army-Navy-Air Force Support Center, established in 1952, controlled identification of supply items that were consumable goods by using a common nomenclature.

During the mid-1950s each military agency managed specific commodity items, but did not utilize uniform procedures of purchasing, warehousing, distribution, and forecasting of requirements. In 1961 a single agency, the Defense Supply Agency (DSA), was created to consolidate logistics functions and services into one agency. Its mission included management of the Federal Supply Catalog, the DoD Surplus Disposal Program (now the Defense Reutilization and Marketing Service), and the DoD Industrial Plant Equipment Reserve (now the Defense Industrial Plant Equipment Center). DSA became operational in 1962.

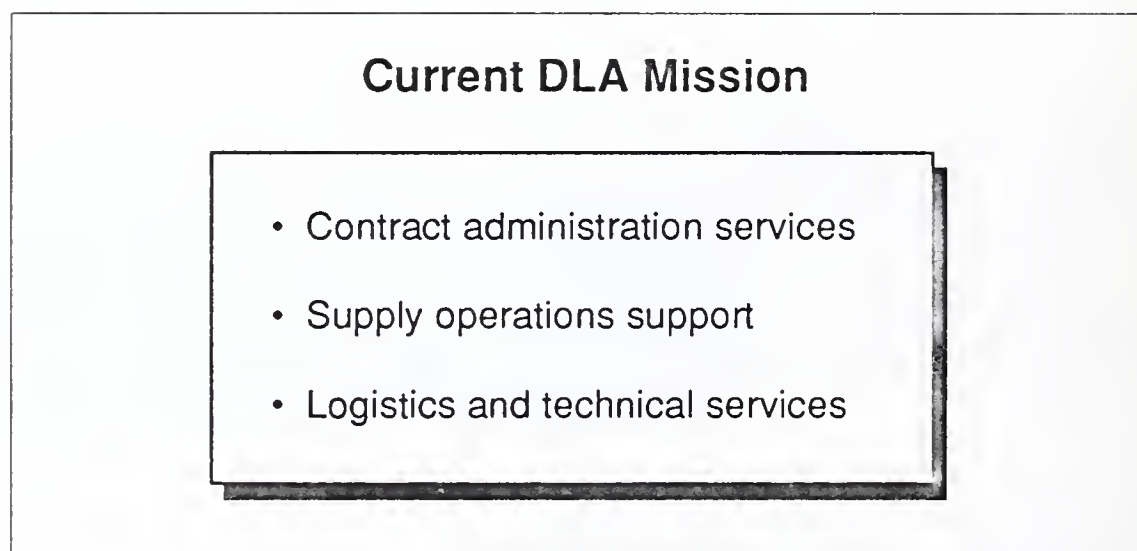
Contract administration functions for the military services were added to DSA's mission in 1965. By 1973, DSA's operations were expanded to include overseas responsibility for wholesale food and bulk fuel stocks. During 1976, the agency received its current name, the Defense Logistics

Agency. By the end of the 1970s, DLA's responsibilities had been broadened again to include overseas disposal of surplus material.

2. Current Mission

The Defense Logistics Agency's current mission entails provision of worldwide logistics and technical services, supply support functions, and contract administration services to the U.S. military forces, as shown in Exhibit III-1. It is one of 12 DoD agencies that are charged with providing support to all of the U.S. Armed Forces.

EXHIBIT III-1



More than 50,000 DLA personnel are currently employed throughout the U.S. and in 22 foreign countries supplying 58% of the commodities (spare parts, clothing, fuel, food, and medical and construction supplies) consumed by the Armed Forces. DLA's purchases exceed \$12 billion annually. DLA is the link mechanism between the requirements of its customers and the suppliers of common goods. In order to ensure that materials will flow from industry to DLA's customers on an efficient and timely basis, the agency's logistics information systems must quickly and accurately match customer needs with suppliers.

DLA's supply support functions are managed by a network of six supply centers and six depots handling daily operations. Each supply center is in charge of one or more major commodities in terms of forecasting demands, requisition processing, awarding contracts, inventory control, and production scheduling. The depots receive, warehouse, and distribute more than 20 million items per year.

DLA's Defense Contract Administration Services are administered by nine regions (DCASRs) covering multistate areas within the U.S.. DCASRs administer commodities contracts after they have been awarded by the military services, DLA, and also for other defense agencies, some civil agencies, and certain foreign governments. During FY1988, more than 400,000 contracts having an estimated value of \$320 billion were administered by the agency.

Technical and logistics services are provided by the eight service centers in the U.S. whose functions include:

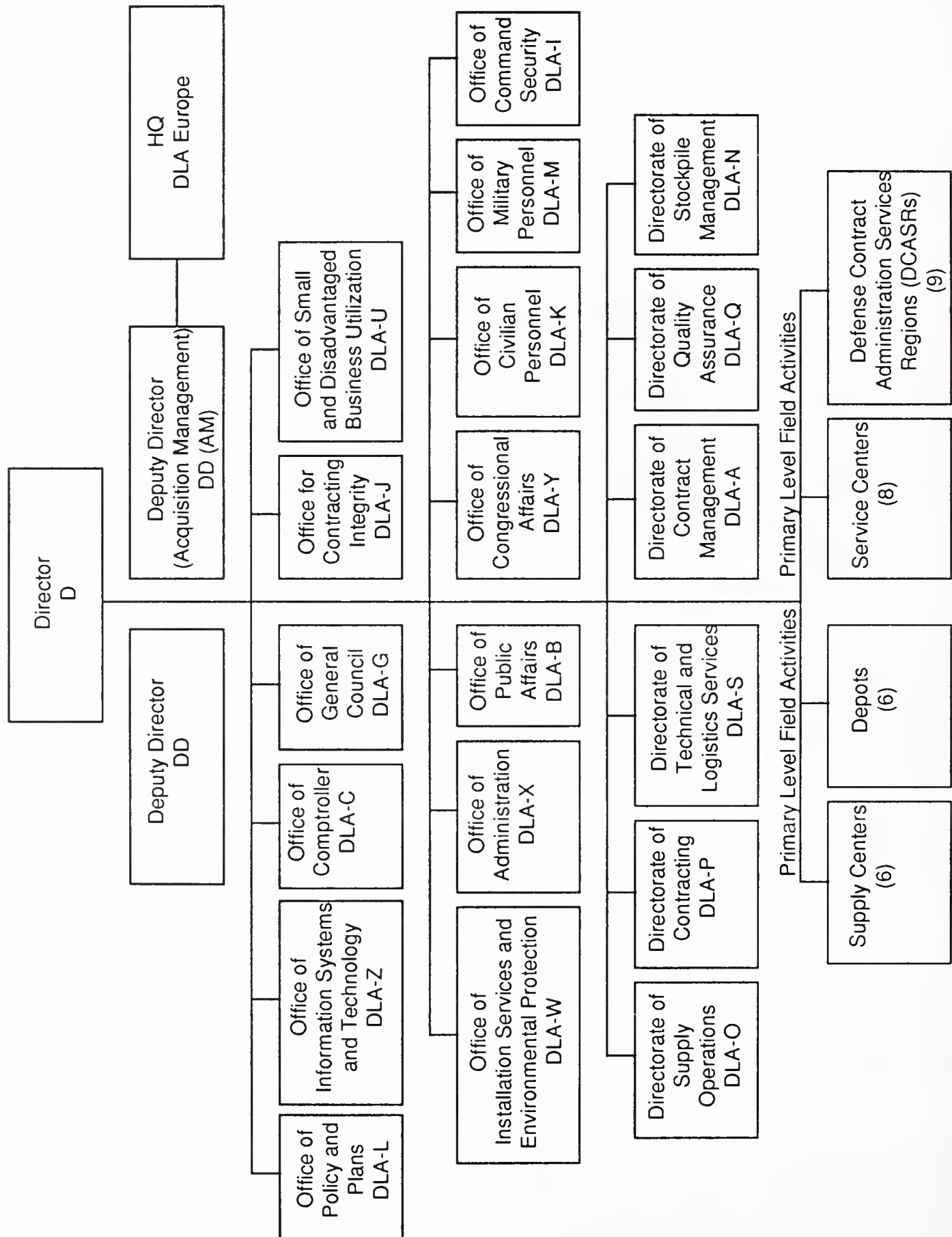
- Preparation of item descriptions
- Parts control
- Value engineering
- Stockpile management
- Contractor payments

The Defense Logistics Services Center (DLSC), located in Battle Creek, MI, maintains the Federal Supply Catalog System and the Defense Integrated Data System (DIDS). Another center, the Defense Reutilization and Marketing Service (DRMS), handles surplus items by redistribution through the federal government, donation to state and local governments, and resale to the public. Management and inventory functions for the DoD's reserve of machine tools and plant equipment are handled by the Defense Industrial Plant Equipment Center. DTIC, the Defense Technical Information Center, functions as a central repository and disseminator of scientific and technical information for the military services and their contractors. Payment functions for commodities contractors are centralized in DLA's Finance Center, located in Columbus, OH. The Defense Stockpile Center manages the national stockpile of strategic materials intended for war or other national emergencies. DLA's information systems are developed and maintained by staff personnel at the DLA Systems Automation Center (DSAC). Administrative services required agency-wide are provided by the DLA Administrative Support Center (DASC).

DLA is the DoD's prime purchasing and contract administration agent. As might be expected, it is a large organization, only briefly depicted in the functional organization chart included as Exhibit III-2. The Exhibit summarizes both Headquarters offices and directorates located at Cameron Station, Alexandria, VA, and Primary Level Field Activities. The director and deputy director posts of the agency are held by military officers and are rotated among the military services. Lt. General C. McCausland, USAF, is the current director of the agency.

EXHIBIT III-2

Defense Logistics Agency Functional Organization



DLA-Z, the oversight organization for all agency ADP/T resources, will be discussed in detail later in this chapter. Other offices and directorates that interface with DLA-Z and impact ADP/T acquisitions' policy, planning, and management are DLA-P, DLA-C, DLA-G, and the Primary Level Field Activities (PLFAs).

The Directorate of Contracting (DLA-P) is the monitoring organization for all aspects of DLA's contracting for the acquisition of ADP/T resources, and it provides policy guidance when required. The manpower and funding assessments associated with ADP/T proposed and approved acquisitions are reviewed by the Comptrollers Office (DLA-C). The Office of General Council (DLA-G) provides all required legal functions and assistance during the procurement process of ADP/T resources.

OTIS (Office of Telecommunications and Information Systems) organizations reside within the PLFAs. These organizations directly report to their respective field commanders, but are responsible for executing the management, installation, conversion, training, and operation of their functional ADP organizations. Their staff members often serve in the capacities of a Contracting Officer's Representative (COR), or Contracting Officer's Technical Representative (COTR) for ADP/T acquisitions.

The agency has long recognized the need to establish Automated Information Systems (AISs) that are based on functional requirements of the services and agencies that utilize DLA logistics services. The Logistics Systems Modernization Program (LSMP) initiative began in the mid-1980s to effect automated logistics support systems. Reliance on more high-technology automated systems will facilitate DLA's expanded role in influencing weapons systems, thus providing mobilization and preparedness support.

DLA has recently changed its approach to accomplishing LSMP to a more incremental, phased modernization of its hardware and software systems. The Air Force's Logistics Modernization program has been instrumental in providing a role model for DLA on how to accomplish agency-wide ADP/T modernization. Modular projects stressing the functionality of systems reduced the risks encountered by larger integration projects for the Air Force Logistics Command (AFLC).

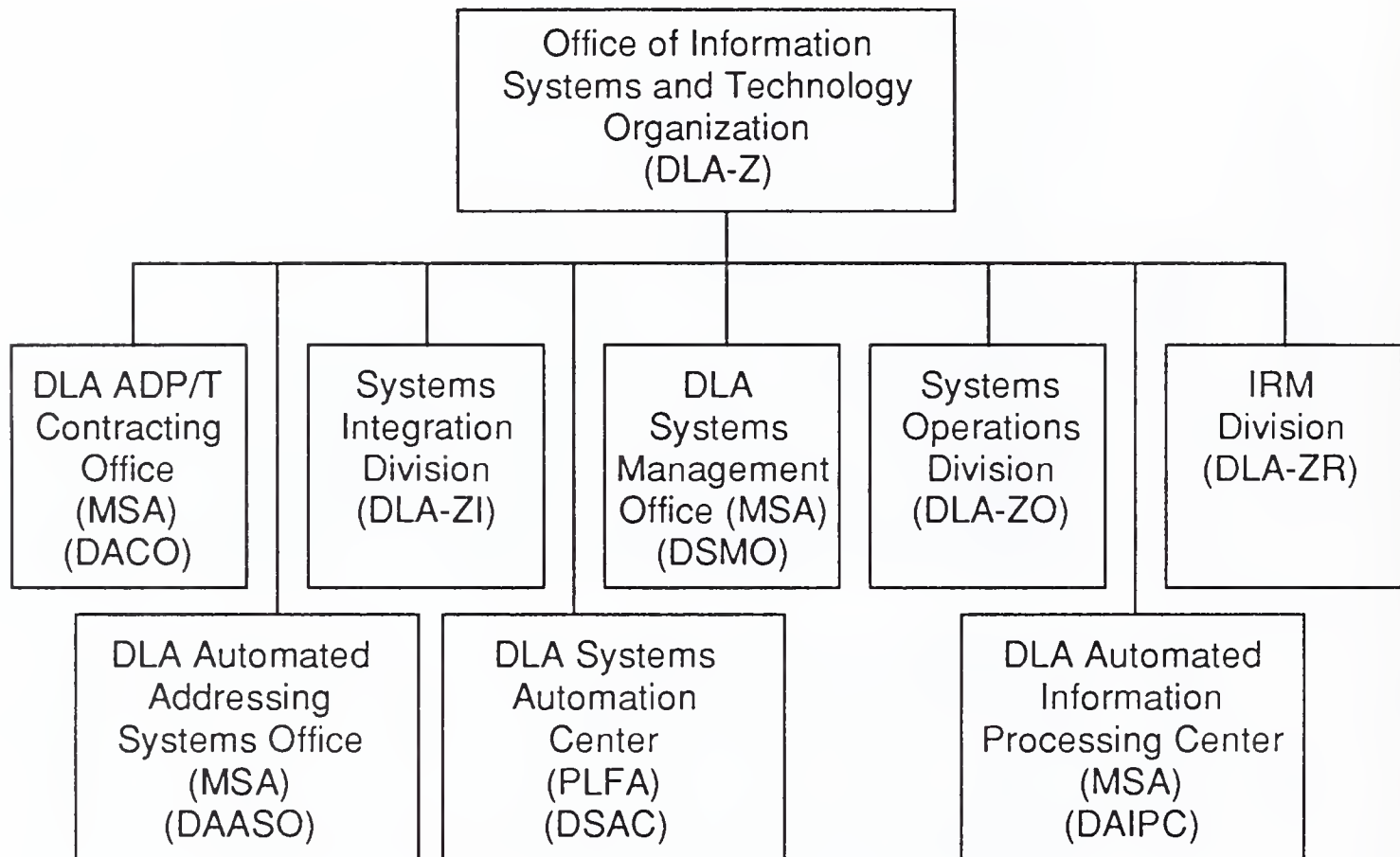
B

Information Systems Structure and Organization

The Office of Information Systems and Technology, DLA-Z, is responsible for all ADP/T resources developed internally by agency personnel and those acquired from outside the agency. DLA-Z has recently undergone a significant reorganization and realignment of responsibilities. Its new organizational structure is outlined in Exhibit III-3.

EXHIBIT III-3

Office of Information Systems and Technology Organization



Tom Knapp, in his capacity as Director of Z and Assistant Director of DLA, is the current Senior IRM Official within DLA. DLA-Z's responsibilities governing the procurement and management of ADP/T resources are:

- Provide policy and guidance agency-wide
- Provide contracting services
- Establish management policies and internal procedures for ADP/T acquisitions

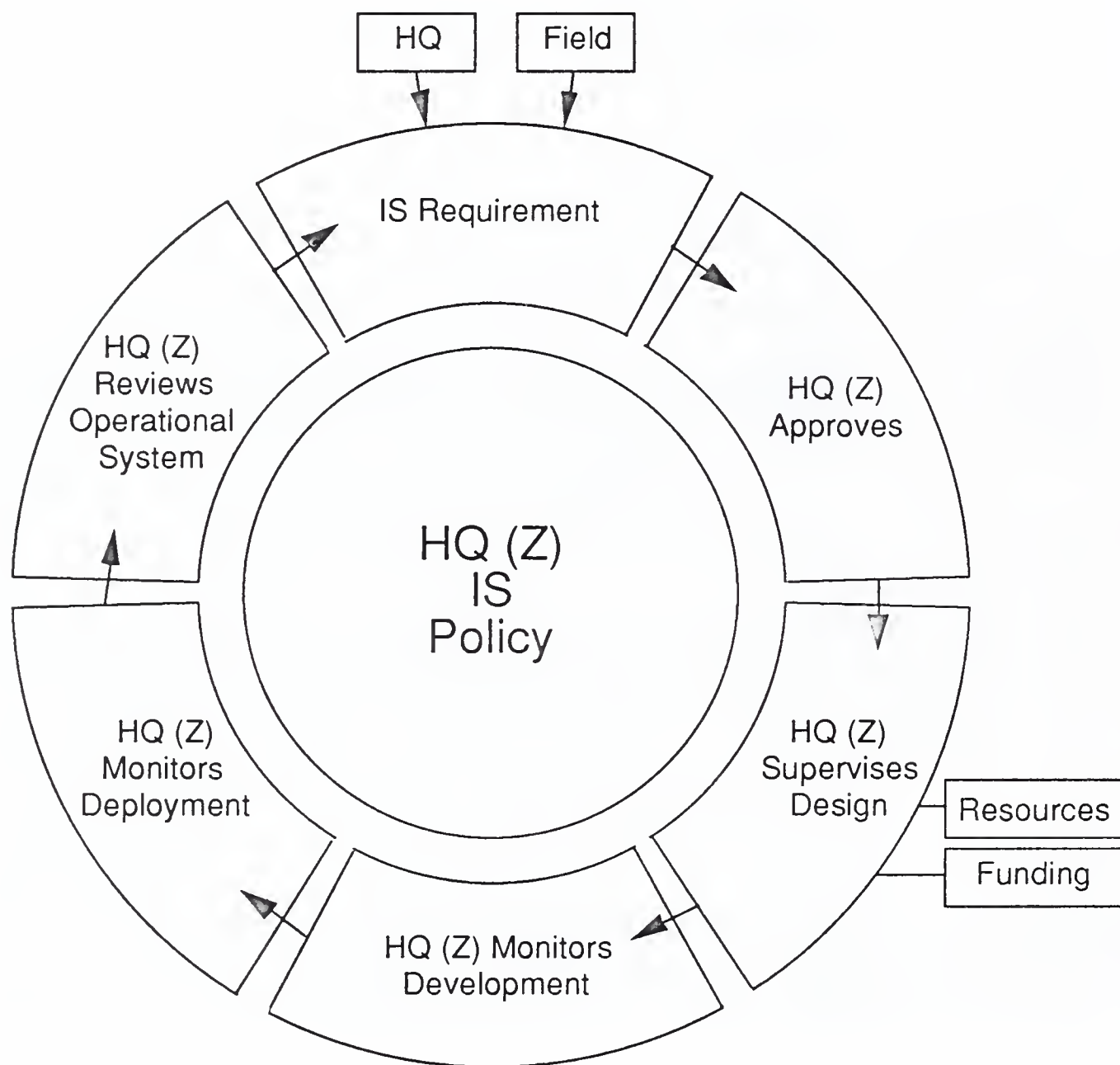
- Prepare ADP/T technical specifications
- Develop and staff ADP/T programs
- Provide hardware and software maintenance
- Coordinate telecommunications equipment installation with government communications networks
- Monitor the test and continued operations of systems
- Maintain inventories on resources and information on AIS applications and systems
- Approve ADP/T requirements or delegate the responsibility
- Prepare Mission Analysis and Requirements Documents (MARDs) that affect multiple PLFAs or delegate the responsibility
- Serve as the Program/Acquisition Manager for each procurement
- Review and approve all requirements and acquisition documentation

Through the new DLA-Z reorganization, the agency is seeking to improve information resources accountability and management both at the Headquarters level and at the two centers. An overview of DLA-Z's oversight role for AIS development is presented in Exhibit III-4.

The Logistics Systems Modernization Program Office (DLA-F) previously reported directly to DLA-D. The name has been changed to DLA Systems Management Office (DSMO), and now, as a division of IRM, reports directly to the director of the Z organization. The new DSMO has expanded responsibilities resulting from the reorganization: The development, management, and control of all AIS development within the agency. DSMO will be the primary interface with the functional users at PLFAs.

EXHIBIT III-4

Headquarters' Oversight Role of DLA Information Systems (IS) Development



New, internal control procedures have also been initiated within the agency, resulting in the establishment of the DLA Automated Information System Review Council (DAISRC). All major AISs proposed for the agency must now pass through both the DAISRC and MAISRC approval processes. Currently, the MAISRC process is mandatory for all DoD information systems estimated to cost at least \$25 million in any given year, or \$100 million over the life cycle of the system.

DLA's DAISRC process mirrors the MAISRC process and it will be required for all AISs prior to submission to MAISRC. Final criteria are still under development. A multipage flow chart illustrating the DAISRC process is included in Appendix G.

DLA has not previously had a stringent, formal, internal AIS approval and management process, as at some other DoD and civil agencies. In FY1990, DAISRC is tentatively scheduled to begin, pending establishment of remaining procedures.

The DLA Systems Automation Center (DSAC), a PLFA, also previously reported within DLA's organization to DLA-D. It now has been merged into DLA-Z. DSAC is responsible for all DLA internal systems development and enhancements to existing AISs.

The DLA Automated Information Processing Center (DAIPC) provides automated support for the Defense Finance Center.

The DLA Automated Addressing System Office (DAASO) will continue under the new realignment to report to Z. DAASO's primary responsibility is to provide for the automated routing of item requisitions to appropriate item managers. It is clear that DLA's reorganization was aimed at structuring all information processing functions within one reporting organizational group: DLA-Z to maximize and strengthen accountability and to coordinate the agency's modernization of information systems.

DLA's ADP/T Contracting Office, DACO, functions as the acquisition management, contracting, and contract management group with the Z organization. DACO assigns contracting officers for ADP/T acquisitions.

The Systems Integration Division (DLA-ZI) is the systems architecture planning arm of Z, and is responsible for instituting and reviewing information systems security across all ADP/T resources within the agency.

The Systems Operations Division (DLA-ZO) is responsible for information systems facilities management, and capacity and service planning to meet user requirements. Providing end-users' computer resources also fall under ZO's domain. Field OTIS directors report to this division of Z in addition to their commanding officers in the field.

The functions of IRM strategic planning, internal research planning, personnel development maintenance, and IRM budget planning/control are performed by the IRM Office (DLA-ZR).

C

Current Environment

As a result of the agency’s widespread use of Z-248 microcomputers, the manufacturer that currently dominates DLA’s computer hardware environment is Zenith Data Systems. Exhibits III-5 through III-9 depict the current hardware usage within the agency by manufacturer, hardware class, and class by manufacturer.

EXHIBIT III-5

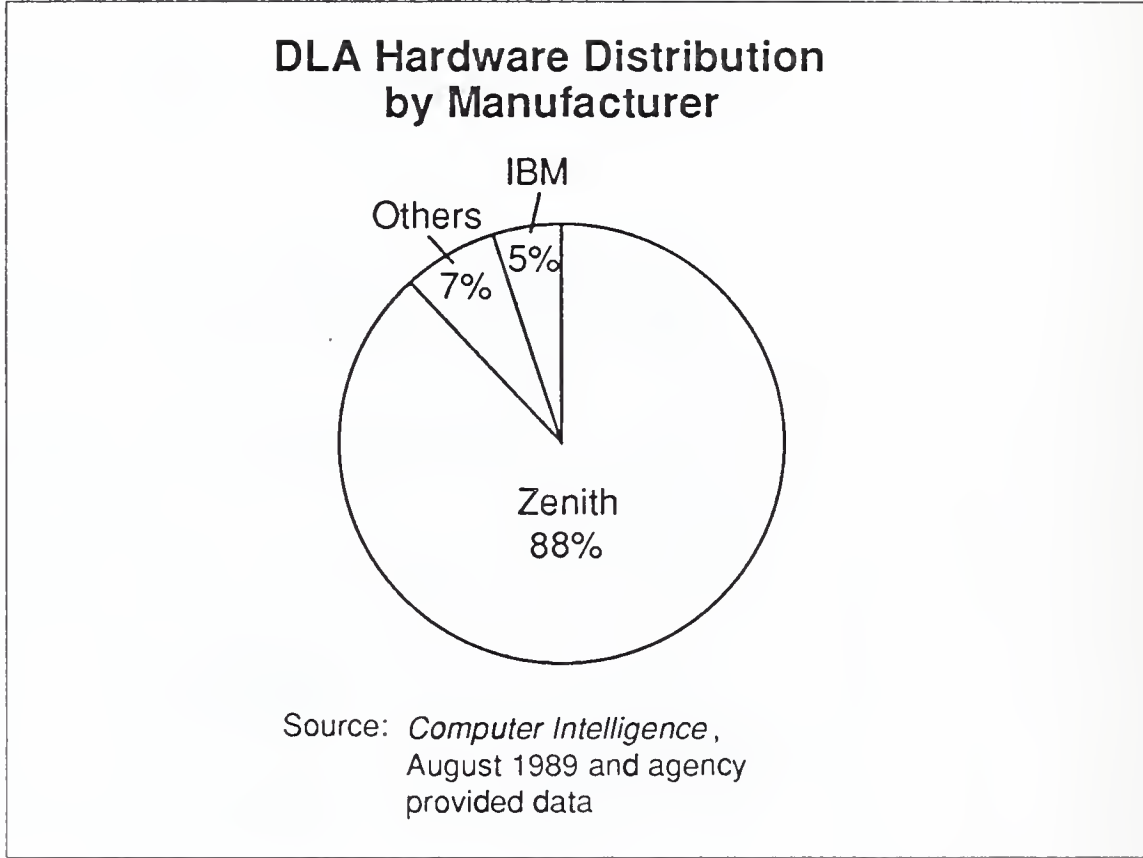


EXHIBIT III-6

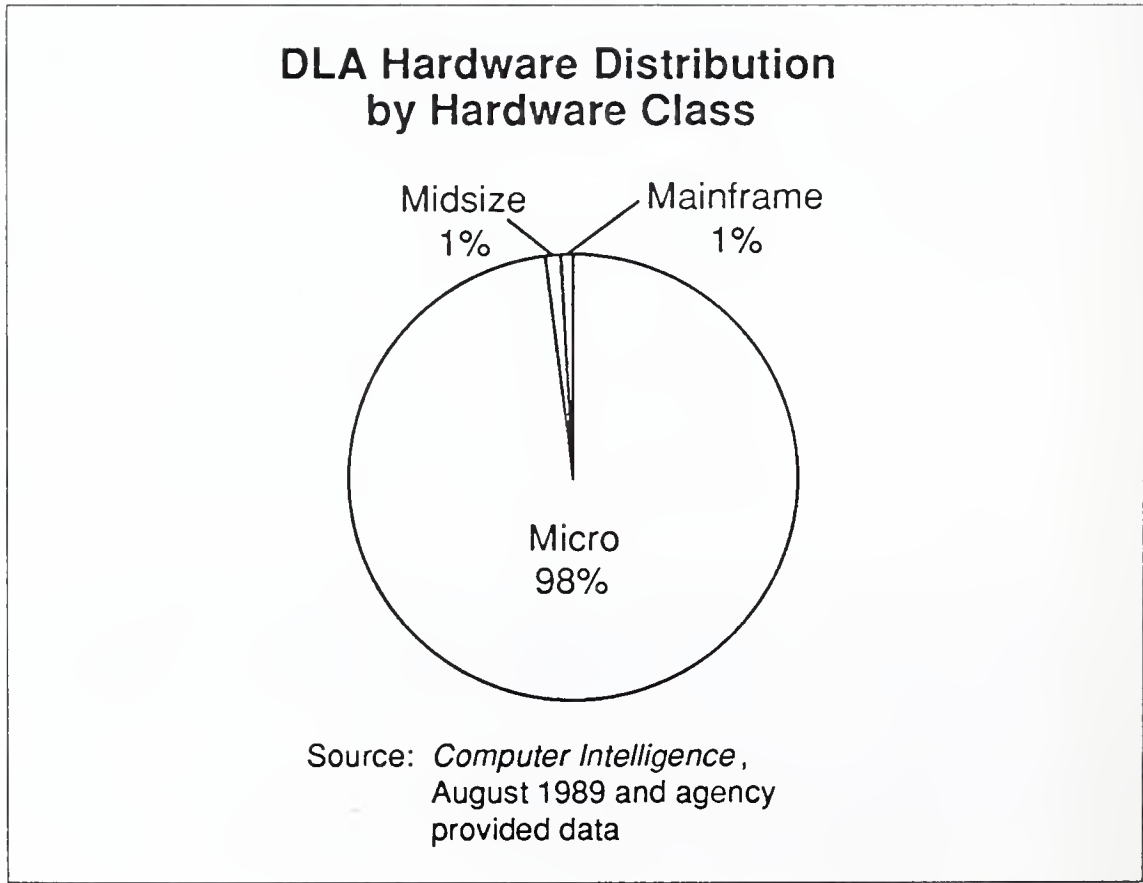
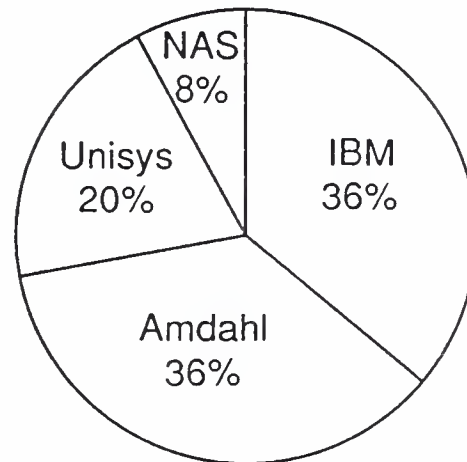
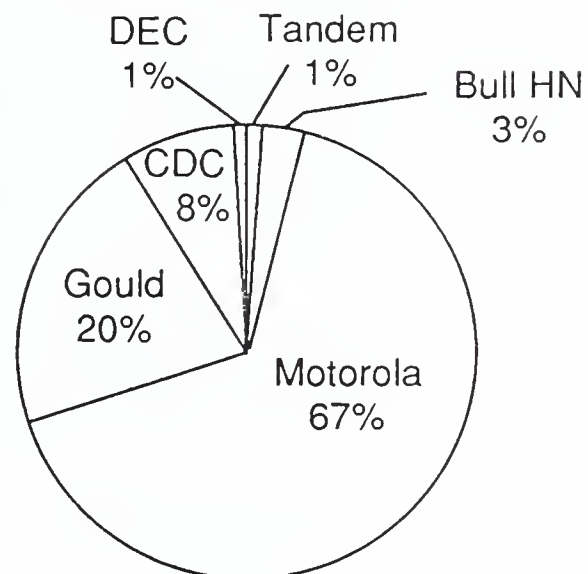


EXHIBIT III-7

**Large Systems
Installed Base
by Manufacturer**

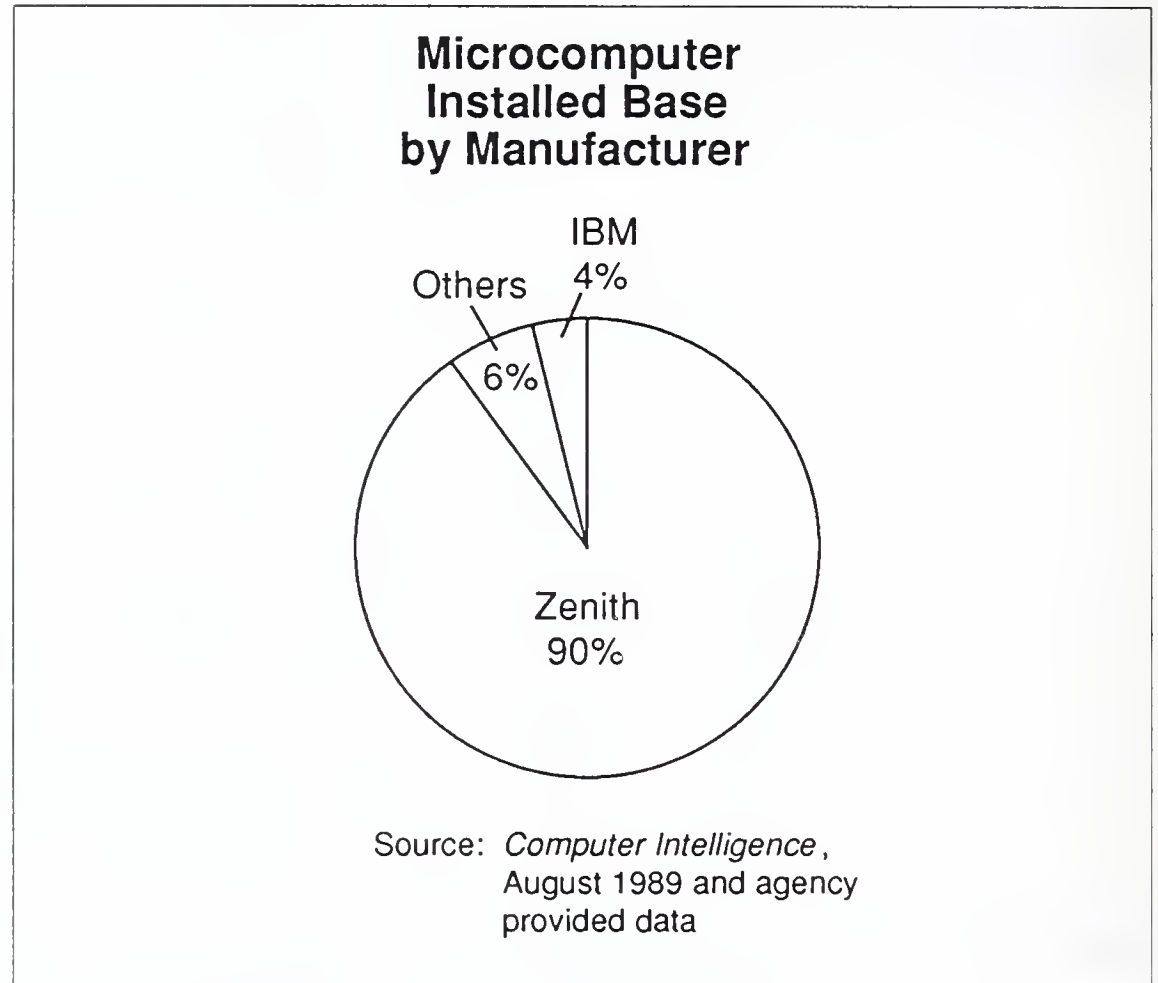
Source: *Computer Intelligence*,
August 1989 and agency
provided data

EXHIBIT III-8

**Midsize Systems
Installed Base
by Manufacturer**

Source: *Computer Intelligence*,
August 1989 and agency
provided data

EXHIBIT III-9



As one would expect, based on DLA's new emphasis on end-user/depart-mental computing, microcomputers comprise 98% of the agency com-puter equipment. Midsize systems currently account for 1%, and main-frame operations, less than 1%.

DLA's mainframe computer environment principally consists of IBM and IBM/PCMs. Most augmentations of existing systems usually result in MVS-based acquisitions.

Within the midsize systems class of computer systems, Motorola has the major market penetration followed by a few Gould, CDC, DEC, and Tandem systems in descending order.

D

Information Systems Trends

1. Funding Levels

Overall funding availability for information systems and services agency-wide at DLA has been increasing over the past three years as perceived by both field and HQ policy level respondents to INPUT's survey, as shown in Exhibit III-10. The increase is a result of DLA's overall thrust to modernize existing ADP/T, and the development of new systems to improve productivity in supplying logistics and contract

services. A very small sample of each of the respondent groups believed that information systems funding levels were decreasing or remaining the same.

EXHIBIT III-10

DLA Information Systems and Services Funding History, 1986-1988

Funding History	Percent of Respondents	
	Policy	Field
Increasing	60	79
Decreasing	10	14
Remaining the same	10	7
Don't know	20	0

Specific funding levels for each field activity averaged \$15 million per year over the past three years, with a drop of approximately \$1 million in 1989, according to the field level respondents. They expect to see funding levels rise again to \$15 million in 1990, as depicted in Exhibit III-11.

EXHIBIT III-11

Information Systems and Services Funding Levels for Field Activities

Average Funding Levels (\$ Millions)		
FY1986-FY1988	FY1989	FY1990
15.0	13.9	15.0

2. Centralized/Decentralized Directions

DLA's automated tools that exceed \$5,000 to purchase or implement in one year are controlled by the DLA-Z organization headquartered at Cameron Station, Virginia. Headquarters sets policies and procedures for acquisition of ADP/T resources and systems standardization. DLA-Z has oversight responsibilities for systems development, management

review of operational systems, and daily operations. In addition, the Z organization provides all contracting services for the acquisition and maintenance of ADP/T resources (see Exhibit III-12).

EXHIBIT III-12

DLA Information Systems Centralized/Decentralized Activities	
Centralized	Decentralized
<ul style="list-style-type: none"> • Policy directions • Major AIS development • Management • Operations • Contracting services 	<ul style="list-style-type: none"> • Local midsize/PC requirements • Facilities management

Small local ADP requirements can be developed by the functional users at the Primary Level Field Activities without the involvement of the HQ-Z organization. Most of these requirements are PC-based and involve connectivity/networking tools. The current threshold of \$5,000 is expected to increase; however, the new limit is undetermined at this time. The number of small ADP procurements is expected to rise significantly over the next five years, as a result of the agency's end-user computing thrust in combination with an increase in purchasing thresholds. Facilities management of ADPE is generally the function of the field organization housing the equipment.

In an effort to further define the types of decentralized ADP activity within DLA, INPUT asked field respondents what types of mission-oriented contracting their groups had completed. Only 29% of this respondent group indicated that their respective organizations had "completed mission-oriented contracting." The types of application areas developed are listed in Exhibit III-13. The findings demonstrate that DLA systems development is usually not a localized activity, but is centrally managed.

EXHIBIT III-13

Mission-Oriented Applications

- Project management
- Data base
- Document

Note: 29% of respondents indicated their organizations had completed mission contracting.

Field level respondents were additionally asked if DLA's overall information systems planning supported their group's field modernization efforts. As shown in Exhibit III-14, their responses indicate ADP/T modernization throughout the agency is centrally developed and directed by HQ.

EXHIBIT III-14

Field Perception of DLA Support for Field Information Systems Modernization

DLA IS Planning Supports Field Modernization?	Percent of Respondents	Explanation
Yes	79	<ul style="list-style-type: none"> • Through 3-tier architecture • HQ directs major efforts
No	21	<ul style="list-style-type: none"> • Many players • Own staff

3. Other Trends Impacting Information Systems

The trends driving DLA's acquisitions of information systems and services through FY1994 and into the 21st century are summarized in Exhibit III-15. The agency's goal is for all employees to have some form of computing on their desktops that will allow their function/productivity to increase. Currently, 30,000 DLA users can access agency information systems from their desktops using a myriad of hardware devices: micro-computers, terminals, intelligent workstations, etc. By 1992, this number is expected to increase to 40,000. DLA hopes to conduct a phased replacement of obsolete desktop equipment in the foreseeable future.

EXHIBIT III-15

Trends Driving Information Systems and Services Plans

- End-user/departmental computing
 - Bar coding
 - Paperless environment
- Increased responsibility/workload
- EDI
- Used mainframe and midsize hardware

Although DLA is centralized in terms of ADP/T oversight, policy, and AIS development activities, the agency is becoming less centralized in its ADP operations and is striving toward departmental/end-user computing. DLA's three-tier architecture will provide the necessary computing power to support end-user/departmental computing. In 1988, DLA managed 2.8 million items for 28.9 million requisitions in support of the military services nationwide and abroad. To manage these items and to satisfy increasing user demands more effectively, technology is required that integrates the depots, supply, and service centers with the major DLA data bases. The current AISs used to support DLA's mission are paper- and manpower-intensive.

DLA will employ EDI elements to promote efficiency in fulfilling customer requirements by creating the Electronic Supplier/Customer Network (ESCN) and an electronic contracting network. ESCN will achieve computerized commerce between customers and suppliers, with DLA minimizing its function as a wholesaler. DLA will serve only as the

interface mechanism between DoD customers and suppliers, thereby limiting wholesale storage to critical items.

EDI is also being used to enhance SAMMS by allowing supply centers to exchange RFQs, supplier responses, and purchase orders using X12 formats. SPEDE (SAMMS Procurement by Electronic Data Exchange) will distribute information to bidders directly.

A major restraint that directly impacts DLA's acquisition of mainframe and midsize systems is that DLA cannot provide itself with the enhanced computing power promised by new technology for large and midsize systems. As a result of current government policy, agencies like DLA are encouraged to satisfy requirements with used and refurbished equipment when acquiring additional mainframes and minicomputers. Additional systems often must operate in an MVS or UNIX environment, thereby avoiding the need to replace existing CPUs with new types of technology solutions. Hardware supporting these environments is readily and inexpensively available from the "refurbished" computer market.

The HQ participants in this study were asked whether mission goals or new technology innovations were the prime focus of information systems planning at DLA. The majority of respondents indicated that a combination of both factors were driving the agency's modernization efforts, as depicted in Exhibit III-16. DLA will not implement "new technology" just because it is new. Instead, all DLA acquisitions of ADP/T must address the agency's mission deficiencies in support of the military services. Vendors need to market their products' strengths in combination with alleviating identified mission deficiencies to gain information systems and services marketshare within DLA.

EXHIBIT III-16

Focus of Information Systems Planning (ISP)

Focus of ISP	Percent of Respondents
Mission goals	20.0
Technology progress	0.0
Mix	80.0

4. Systems Integration Directions

The majority of interviewees (75%) expect the number of systems integration projects to increase over the next five years, as depicted in Exhibit III-17. None expected the number to decrease or remain at present levels. The survey findings suggest that, despite the redirection of LSMP, agency officials remain optimistic on the role that SI will play in DLA's overall systems modernization. It appears to INPUT that the DLA modernization of systems that includes a three-tier architecture will require more systems and expansion than is currently described in the agency's plans. DLA was still in the process of defining revised LSMP initiatives when this report was written. INPUT believes that, within the foreseeable future, the agency will be announcing several new, incremental systems integration projects that will require contractors' assistance.

EXHIBIT III-17

Trends in DLA SI Projects FY1990 - FY1994

Number of Systems	Percent of Respondents
Increasing	75
Decreasing	0
Remaining the same	0
Don't know	25

Headquarters policy level respondents were asked if, in their opinion, GSA's advocacy of the modular approach to integrated systems designs had affected DLA's approach to the LSMP efforts. Their responses, shown in Exhibit III-18, indicate that 40% believed DLA had revised its approach to LSMP as a partial result of GSA's recommendations. Sixty percent were not aware that GSA's "modular approach" had directly affected how the agency was restructuring its information systems. The data suggest that many DLA policy level personnel believe DLA's restructuring of LSMP is a result of the agency's reassessment of the scope and complexity of the previously envisioned large-scale effort. It might also suggest a recognition by DLA personnel of the hazards of large-scale procurements. This does not preclude, however, small- to midsize SI efforts to meet more modular agency needs.

EXHIBIT III-18

**Impact of GSA's
Modular Approach on DLA's
Integrated Systems Requirements**

Impact DLA Approach?	Percent of Respondents
Yes	40
No	0
Don't know	60

E**Procurement Trends****1. Projected Uses of Information Systems and Services**

The amount of information systems and services support that DLA will procure over the next five years was perceived by the majority of both respondent groups to be increasing, as shown in Exhibits III-19 and III-20.

EXHIBIT III-19

**Projected Information Systems Usage at DLA
FY1990 - FY1994
HQ Perceptions**

Expected Use	Percent of Respondents	Reasons
Increasing	78	<ul style="list-style-type: none"> • Improves productivity • Office automation spread • New technology • Increased requirements • Systems modernization
Decreasing	0	
Remaining the same	22	<ul style="list-style-type: none"> • Budget constraints

EXHIBIT III-20

Projected Information Systems Usage at DLA FY1990 - FY1994 Field Perceptions

Expected Use	Percent of Respondents	Reasons
Increasing	79	<ul style="list-style-type: none"> • Office automation spread • Increased requirements • LAN and WAN use • Improve productivity • Turnkey systems
Decreasing	0	
Remaining the same	7	<ul style="list-style-type: none"> • Budget constraints
Don't know	14	

Respondents were hopeful that the agency will receive additional appropriations when new IS projects are announced to assist in agency ADP/T modernization efforts. These additional appropriations will be needed in order to realize respondents' expectations. The rationales supporting their opinions also were similar. Productivity gains through agency-wide information systems are sought, especially in light of staffing reductions and increased requirements from the military services utilizing DLA supply functions. The automation of office procedures also improves the agency's overall efficiency in supporting DLA's mission. Many existing AISs do not permit data exchange across AISs, are data redundant, and cannot be enhanced to support functional changes.

Technology innovations that will expedite information processing and increased use of LANs and WANs to allow connectivity of DLA systems were also expressed by respondents as driving the agency's increased needs for information systems.

Those respondents in both sample groups that viewed information systems' usage at DLA as "remaining the same" cited federal government budget constraints as the underlying reason for their view. They were not optimistic that DLA will receive the additional funding necessary to accomplish its information systems modernization goals.

2. Agency Preferences for Information Services Vendors

Respondents' preferences for the types of vendors from which they would prefer to purchase the various categories of information systems and services are shown in Exhibit III-21.

EXHIBIT III-21

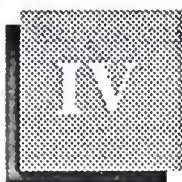
Agency Vendor Preferences for Information Systems and Services

Vendor Type	Ranking* of Service Categories					
	Processing Services	Network Services	Software Products	Professional Services	Turnkey Systems	Systems Integration
Hardware manufacturer	2	-	3	5	2	3
Systems integrator	5	-	2	3	2	1
Professional services firm	3	3	5	1	5	4
Software manufacturer	5	-	1	-	1	4
Not-for-profit organization	1	2	4	17	-	-
Communications supplier	4	1	6	4	2	2

*Rank based on frequency of mention by respondents.

Although DLA does not purchase significant amounts of processing services from contractors, field respondents indicated that not-for-profit organizations would be their choice for a vendor to supply these services. DLA, in its role as an agency of the Office of the Secretary of Defense, has used such firms as Mitre Corporation and the Logistics Management Institute for support. However, INPUT is not aware of any not-for-profit firms that provide processing services. Hardware manufacturers were

ranked second, perhaps indicating a smaller markup for processing services from these types of contractors. For contracted network services, software products, professional services, and systems integration assistance, respondents selected the type of vendors that would appear to possess the associated technical expertise for each service area as their first choice. When purchasing turnkey systems, respondents chose software manufacturers over other types of contractors.



Defense Logistics Agency Market Forecast

When developing market forecasts for particular agencies, variables such as appropriations, management focus, customer expectations, and procurement success can have a major effect on out-year funding. When looking at market forecasts for the entire government, many of these factors tend to cancel each other out over the long haul. However, an individual agency may experience dramatic shifts from year to year in resource availability.

A

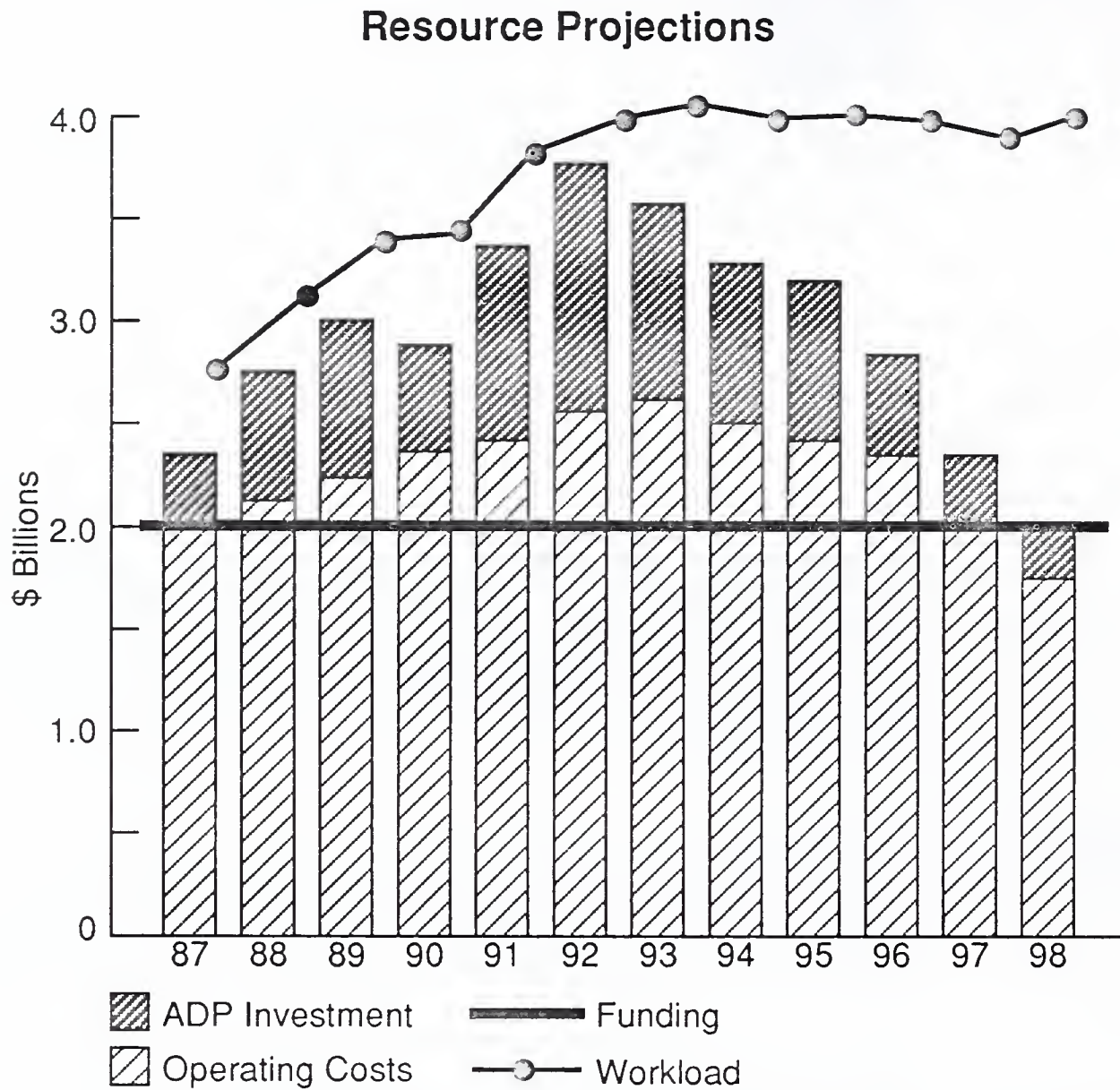
Overall Resource Projections

In looking at the role which information systems will play at DLA, it is useful to consider DLA's overall resource projections. Exhibit IV-1, provided by DLA, summarizes both the operating costs and the ADP investment. The exhibit also shows a projection of agency workload.

DLA expects that an increasing workload, along with aging facilities and equipment, will cause an increase in operating costs over the next few years. Information systems acquisition costs (the "ADP Investment" listed in the Exhibit) will also rise for the next few years, and then drop sharply. DLA expects that, in the long run, productivity gains resulting from the near-term IS investment will accrue, and, during the out years, DLA will be able to provide increased and improved services with fewer resources.

A comparison of Exhibit IV-1 with DLA's FY1990 budget submission illustrates the volatility in funding projections. Exhibit IV-1 shows a drop in IS investment from FY1989 to FY1990, with sharp increases in the subsequent two fiscal years. However, DLA's budget submission in the spring of 1989 shows a different pattern (see Exhibit IV-2). Therefore, it is more useful to look at budget trends in various delivery modes, rather than overall budget on a year-to-year basis.

EXHIBIT IV-1



Source: Defense Logistics Agency, *1988 Strategic Plan*, revised February 1989, page 20.

EXHIBIT IV-2

DLA IT Budget Requests

Fiscal Year	Funding (\$ Thousands)
1988	309,973
1989	316,482
1990	392,137
1991	335,645

*Based on DLA's spring 1989 budget submission under OMB A-11 Section 43A guidelines.

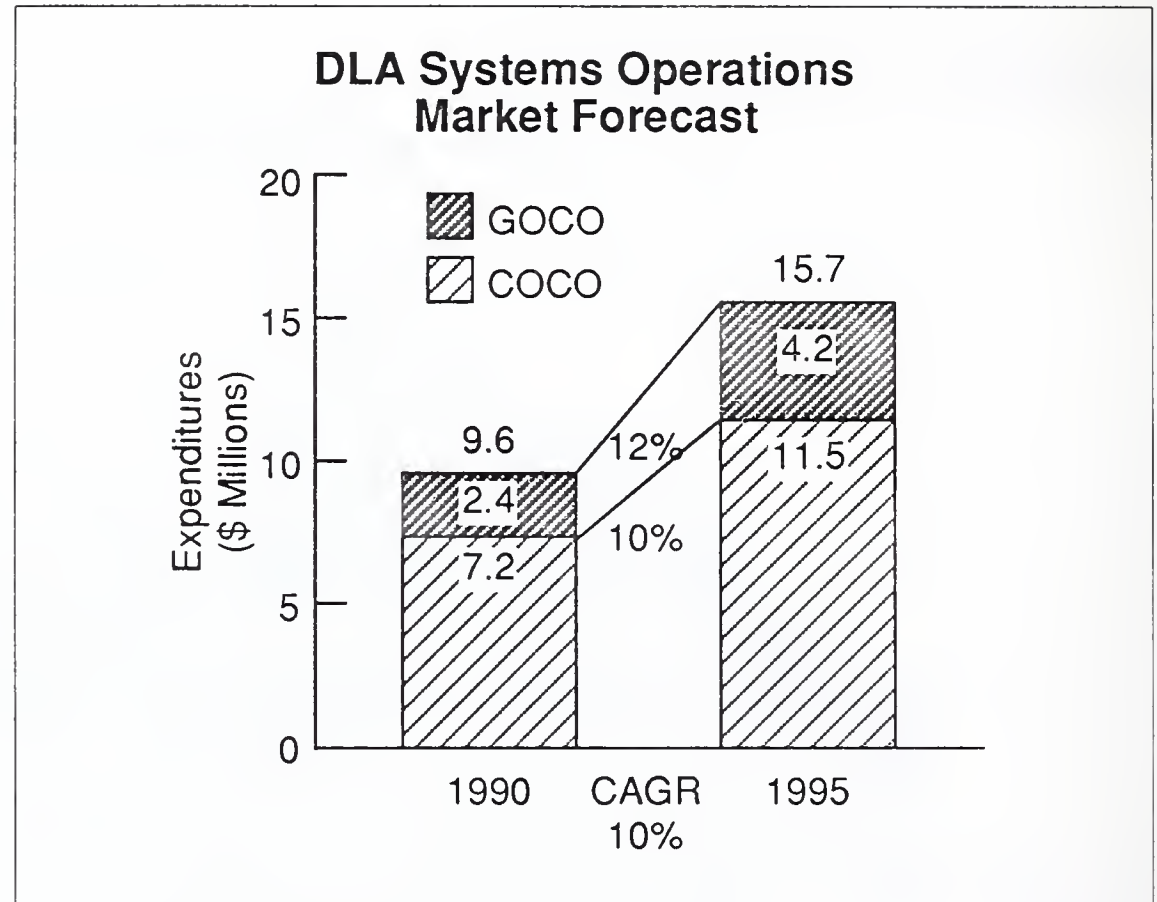
B**Market Segment Forecasts**

Based on DLA's A-11 budget submission, individual initiatives that can be identified and sized, interviews with DLA, and various reports and articles from secondary sources, INPUT has developed segment forecasts for DLA. This section discusses those segments.

1. Systems Operations

The DLA Systems Operations market (previously identified as facilities management) will grow from \$9.6 million in FY1990 to \$15.7 million in FY1995, at a compound annual growth rate (CAGR) of 10% (see Exhibit IV-3). Support of government-owned, contractor-operated (GOCO) activities is growing at a slightly higher rate than contractor-owned (COCO) facilities. Systems operations represents a very small portion of DLA's overall IRM budget. Unlike agencies such as NASA and the Energy Department, DLA owns and operates most of its own computer facilities and makes relatively limited use of outside vendors in systems operations activities.

EXHIBIT IV-3

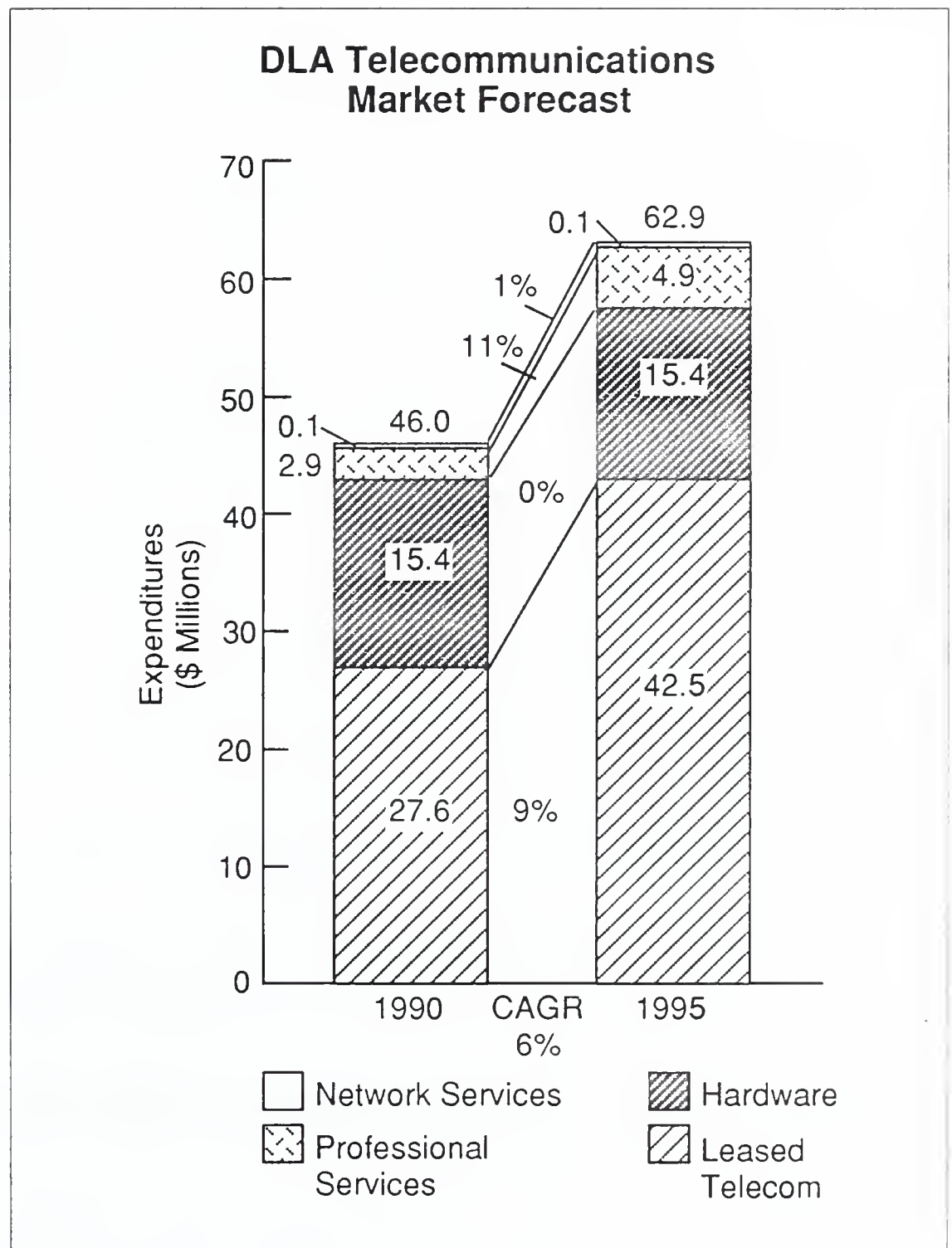


2. Telecommunications

The worldwide dispersal of DLA activities dictates a fairly robust market for telecommunications-related activities. The telecommunications market will increase from \$46 million in FY1990 to nearly \$63 million in FY1995 (see Exhibit IV-4). As might be expected, leased telecommunications will continue to comprise the bulk of the market, although professional services for related activities will grow slightly faster.

Telecommunications hardware spending in 1995 will be the same as that in 1990, although the trend is hardly flat. Spending will grow sharply over the next two to three years at 10% or more, as a result of major new initiatives at DAASO and DLSC. Spending will then drop off sharply in the out years, returning to the 1990 level.

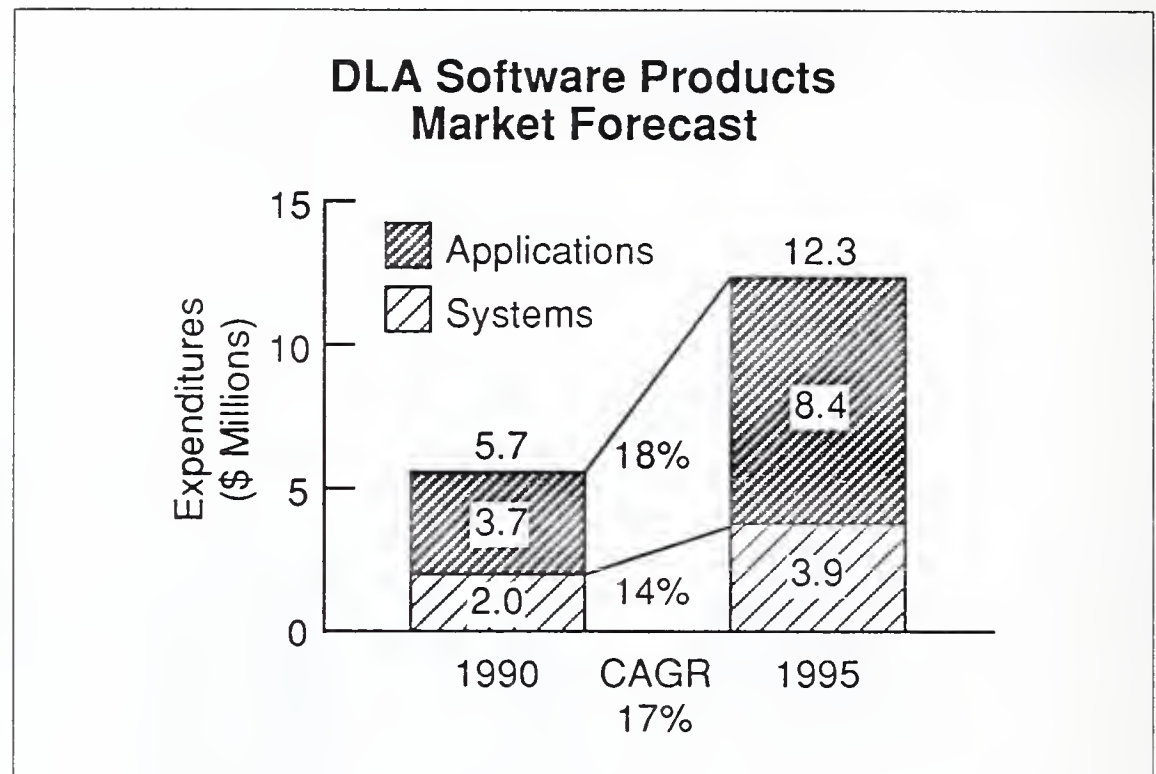
EXHIBIT IV-4



3. Software Products

The market for software products at DLA will grow steadily between 1990 and 1995. Exhibit IV-5 shows it growing from \$5.7 million in FY1990 to \$12.3 million in FY1995, at a CAGR of 17%. Applications software will continue to take an increasing share of this market, with systems software lagging slightly.

EXHIBIT IV-5



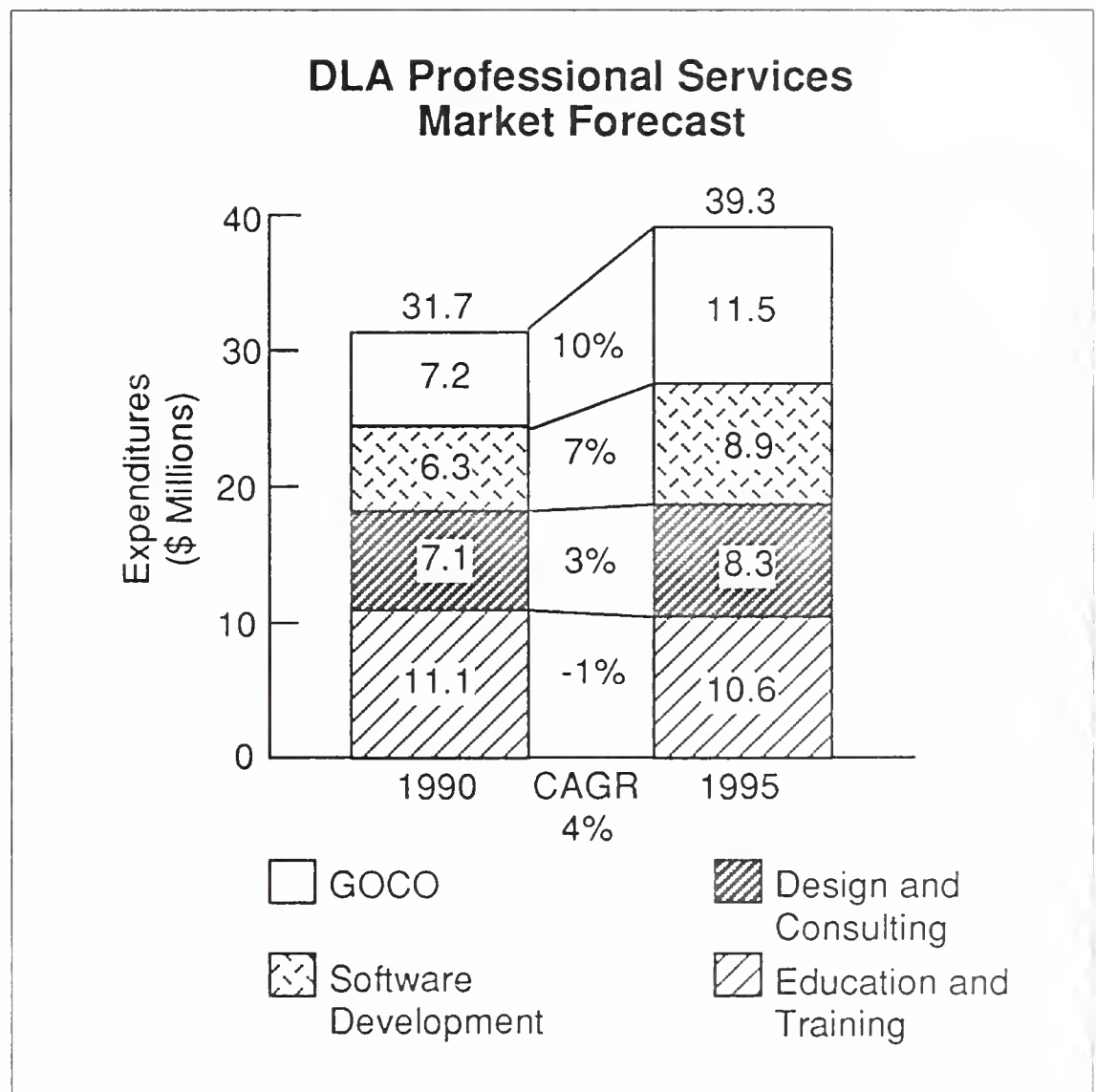
Several factors are combining to produce this strong growth:

- Constrained IRM budgets are reducing DLA's flexibility in contracting for tailored system development efforts.
- OMB's emphasis on packaged software and software certification is encouraging DLA to make greater use of software packages.
- Greater software functionality, particularly in such areas as EDI and CALS (discussed in the following section) is providing new options to DLA in achieving its IRM objectives.
- New hardware purchases—for example, the SAMMS data base initiative and the DLSC data base redesign—will require heavy investments in systems software.
- The growing proliferation of microcomputers throughout DLA will also fuel the need for software packages that increase the usability of these small systems.

4. Professional Services

DLA's professional services market is fairly complex and inconsistent. Overall, it will grow from \$31.7 million in FY1990 to \$39.3 million in FY1995, at a CAGR of 4% (see Exhibit IV-6). As pointed out in Section B.1 above, the GOCO portion, although relatively small, will grow at a 10% rate.

EXHIBIT IV-6



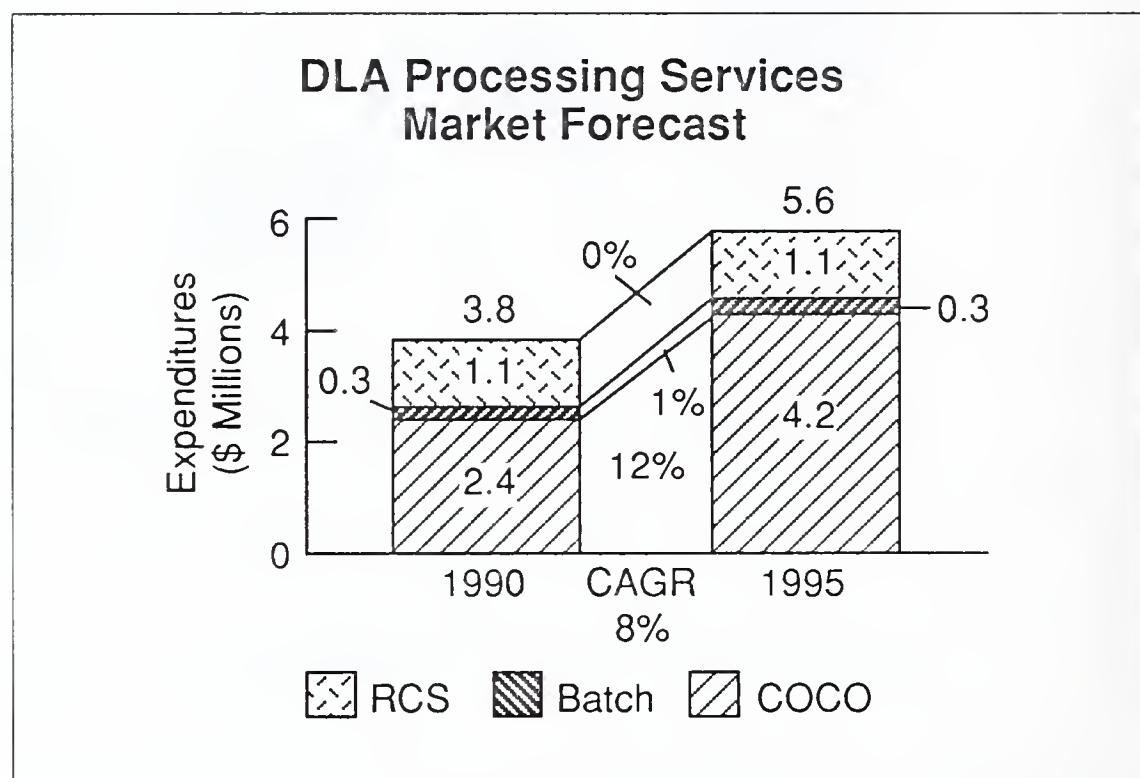
Relative to other agencies, DLA's education and training budget is somewhat higher, reflecting the need to train agency personnel on the new systems being installed. In addition to the major initiatives already mentioned, DLA's heavy commitment to end-user computing, its CALS/EDI initiatives, and its need for cataloging tools on-line will dictate heavy expenditures on training. However, as these initiatives are implemented, training requirements will gradually decline, eventually reaching a more typical low agency level.

As already mentioned, custom software development will not show the growth of earlier years, reflecting budget constraints and the availability of packaged software with greater functionality. However, some major initiatives such as DISMS, DAISY, and SAMMS, will continue to create opportunities for vendors to provide software development, as well as design and consulting support.

5. Processing Services

As mentioned previously, DLA makes relatively limited use of processing services. For example, in the ADP time category of DLA's spring 1989 budget submission, DLA allocated only \$1.5 million for each fiscal year. Overall, INPUT expects DLA's processing services market to grow from \$3.8 million in FY1990 to \$5.6 million in FY1995, at a CAGR of 8% (see Exhibit IV-7). Some of the growth will come from EDI support, and the rest will come from access to external data bases, which will aid DLA in supporting some of its mission requirements.

EXHIBIT IV-7

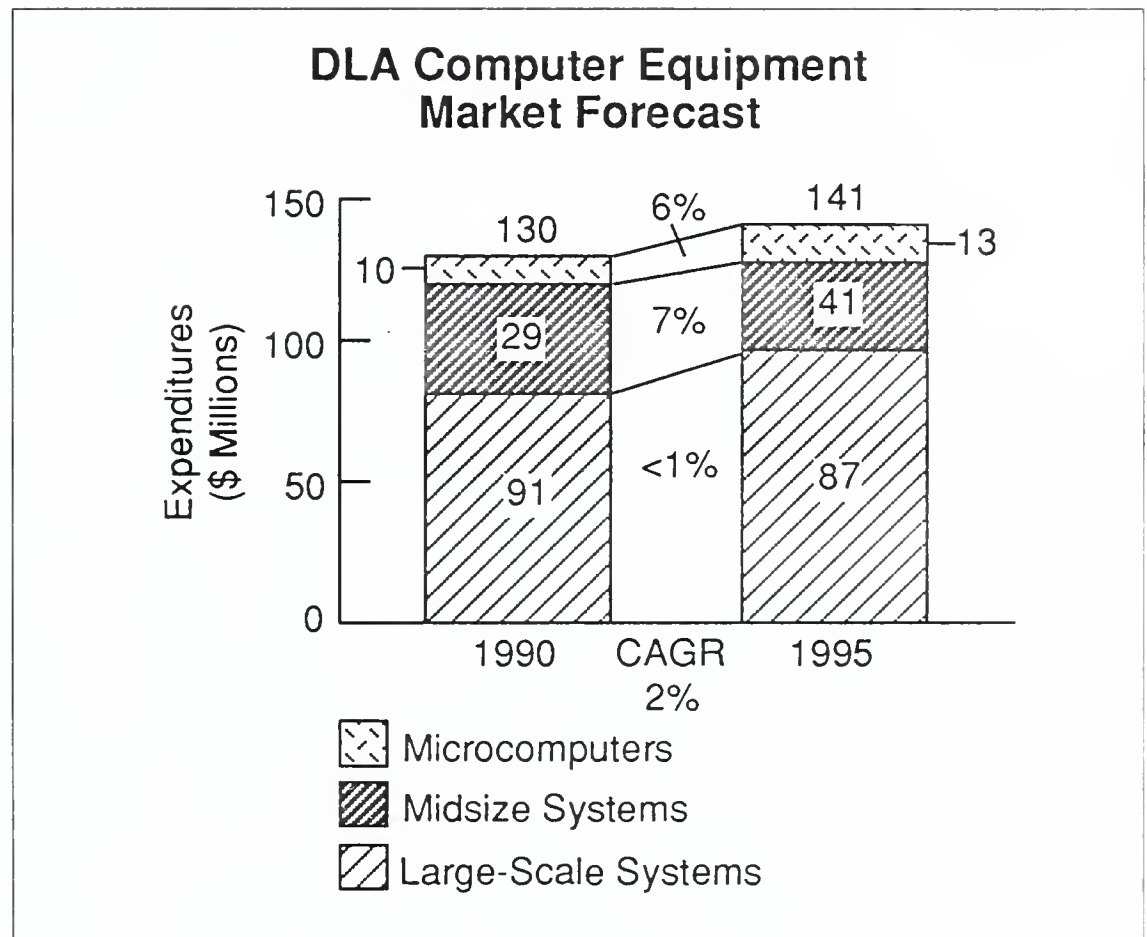


6. Computer Equipment

DLA's computer equipment market will grow from \$130 million in FY1990 to \$141 million in FY1995, at a relatively low CAGR of 2% (see Exhibit IV-8). However, short-term equipment spending in support of the current major hardware initiatives—DLSC, DAASO, and SAMMS—will be observed.

Much of this spending should have occurred earlier. However, like most federal agencies, DLA has had procurement problems in the last few years, which delayed these important projects. As equipment spending on these major programs declines in later years, INPUT expects DLA's end-user computing initiatives to take up the slack. Further, most of the microcomputers that DLA has bought through DoD requirements contracts will need to be replaced. This too will offer continuing opportunities for hardware vendors.

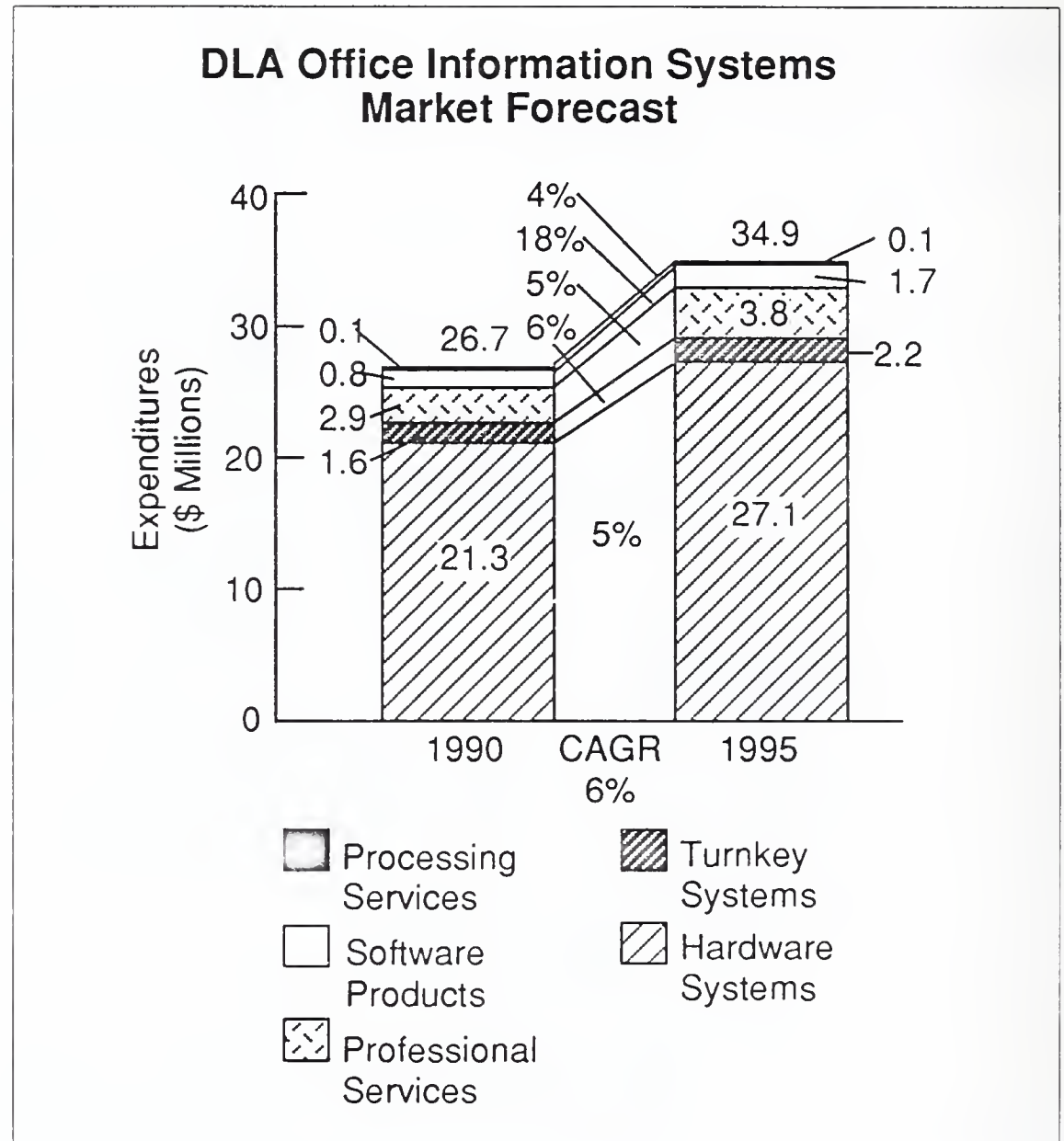
EXHIBIT IV-8



7. Office Information Systems

End-user computing initiatives will ensure modest growth in DLA's office systems market. This market will grow from \$26.7 million in FY1990 to \$34.9 million in FY1995, at a CAGR of 6% (see Exhibit IV-9). Hardware acquisitions will absorb the bulk of this spending, but software products will account for the largest growth rate. The reasons for this growth have already been discussed. DLA expects to achieve significant productivity gains through the implementation of office information systems.

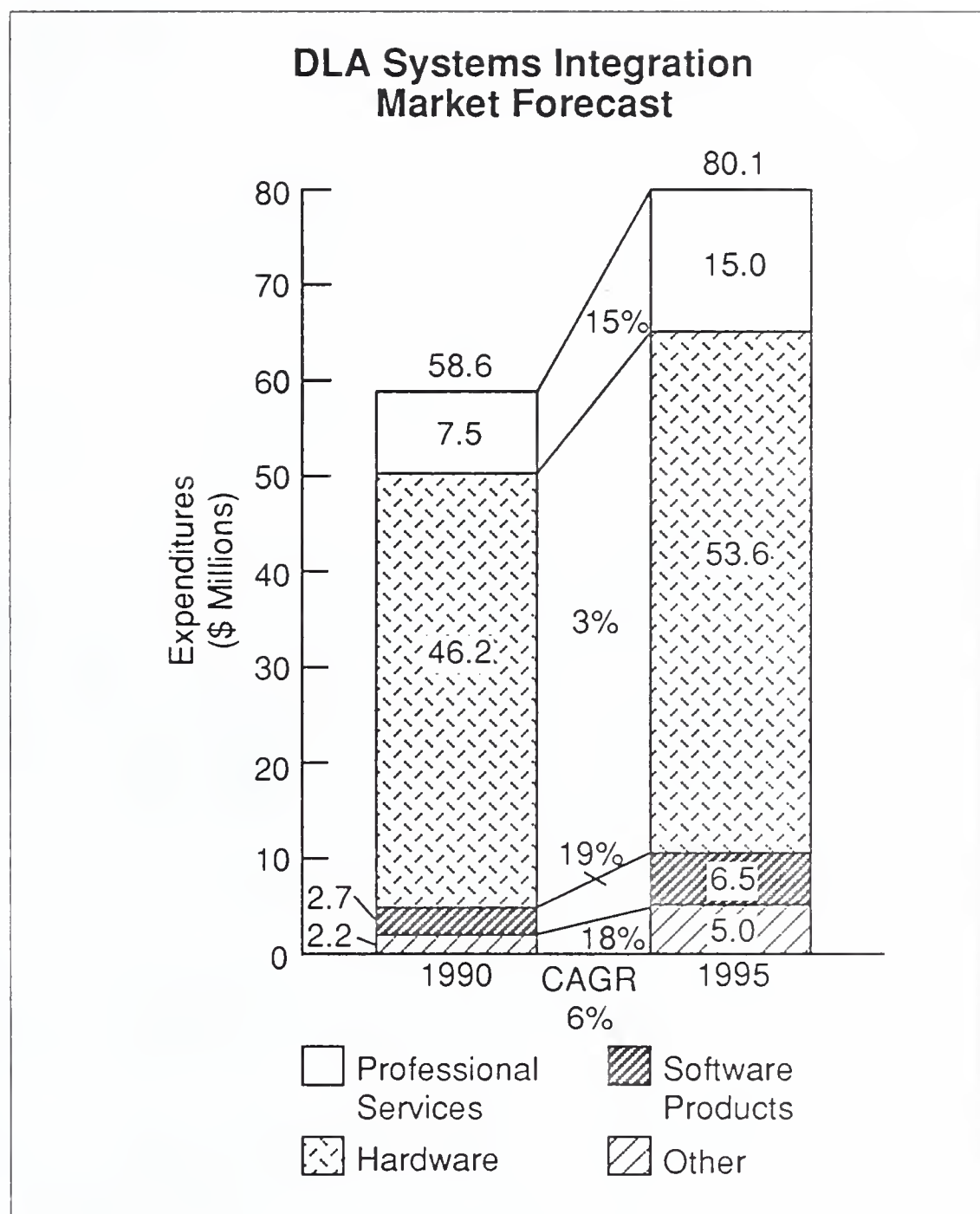
EXHIBIT IV-9



8. Systems Integration

While it is difficult to gauge the effects of GSA's campaign against "Grand Designs," it appears to have had some effect at DLA. INPUT believes that GSA's policies at least discouraged DLA from proceeding with its Logistics Systems Modernization Program (LSMP). However, even without LSMP as a separate entity, DLA's systems integration (SI) market will still grow from \$58.6 million in FY1990 to \$80.1 million in FY1995, at a CAGR of 6% (see Exhibit IV-10). This lags the overall federal SI growth rate substantially (18%), but still represents a significant opportunity.

EXHIBIT IV-10



As prevails throughout the government, hardware procurements absorbs the largest portion of DLA's SI market. However, it is growing at a sharply lower rate than any other SI segment. As in other delivery modes, hardware spending rises rapidly in the first two years and then trails back to the 1990 level.

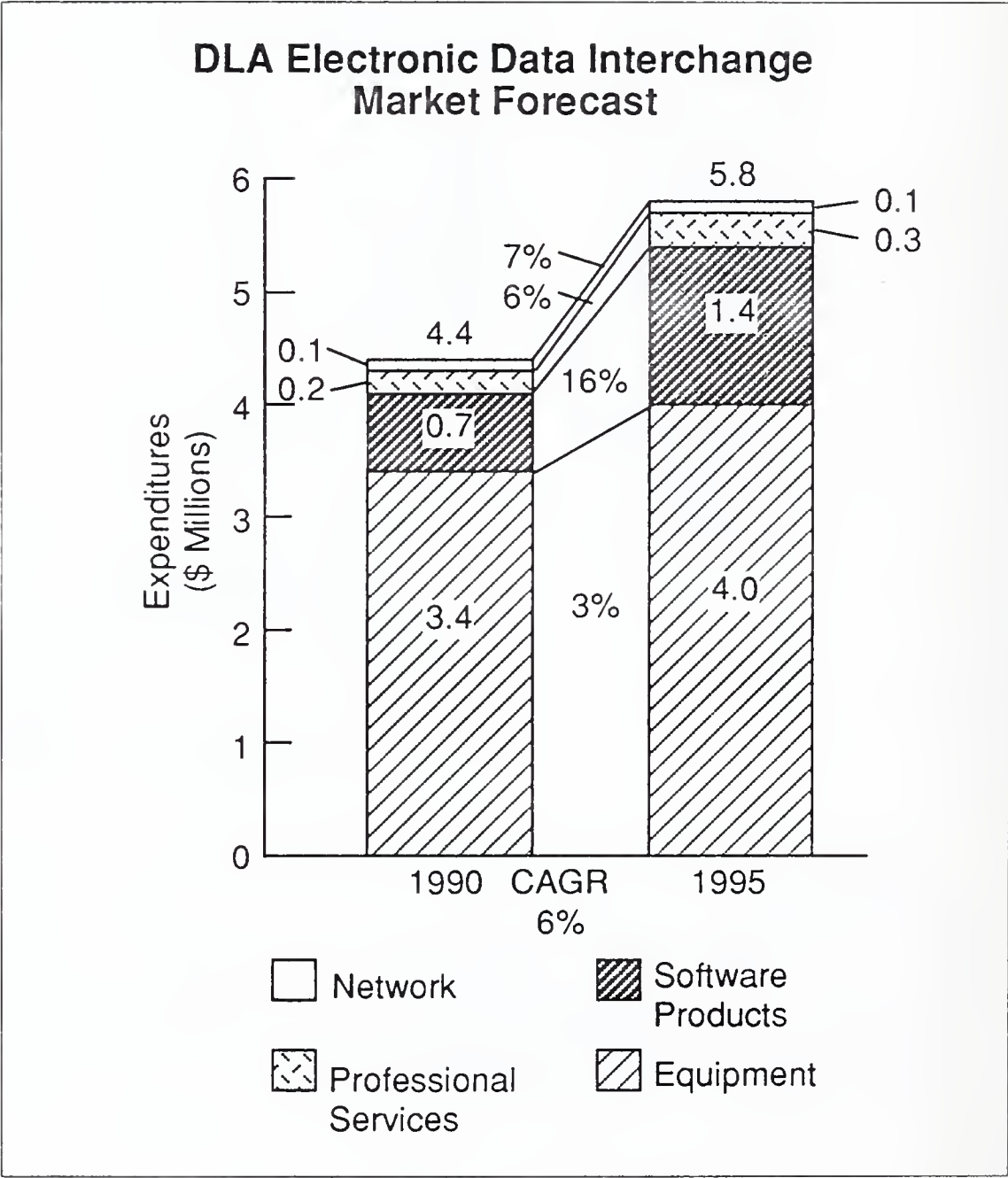
9. Electronic Data Interchange

DLA's EDI market is fairly large relative to other agencies. This reflects DLA's traditional leadership in commissary activities, as well as its current interest in CALS and various EDI initiatives, including the bulk fuels program, the Paperless Order Placement System, and the Procure-

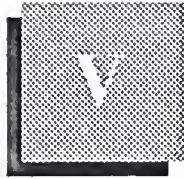
ment by Electronic Telecommunications System. DLA expects its EDI agreements with contractors to increase significantly over the next few years.

DLA’s EDI market will grow from \$4.4 million in FY1990 to \$5.8 million in FY1995, at a CAGR of 6% (see Exhibit IV-11). While hardware expenditures will continue to account for the bulk of this market, software products spending will show the greatest growth rate, doubling over the forecast period.

EXHIBIT IV-11



DLA’s contracting for IS products and services will provide opportunities for vendors in a variety of disciplines. INPUT believes that vendors will need to employ aggressive marketing tactics to establish a DLA presence and compete effectively for these opportunities.



Major Information Systems Acquisition Plans

The major impetus behind DLA's Logistics Systems Modernization initiative is the need for the capability to share data within DLA, between DLA and its DoD customers, and between DLA and private industry. The agency should redesign existing applications that were developed along organizational, not functional lines. They need to be organized into interoperable solutions within the agency and provide for communications with the military services, industry, GSA, and other federal agencies. Adherence to DoD, EDI, and DLA standards that allow for interoperability is critical to the agency in redesigning current and developing new systems that benefit from modern technology advances to solve user problems.

Employing this approach, DLA is implementing LSMP in phased segments. It is building subject area data bases with interoperable AISs, in a three-tiered architecture environment.

A

Recent Systems Integration Initiatives

When viewed from the larger, agency-wide perspective, all information systems that have been recently designed, or are currently in the development process, are part of the LSMP initiative that is expected to carry the agency's data processing into the 21st century. Although a massive systems integration initiative was originally envisioned by the agency, all projects have become systems integration programs regardless of their size because of DLA's and DoD's requirements for interoperability.

Recent and active systems integration projects mentioned by HQ respondents are listed in Exhibit V-1. LSMP should not be viewed as a process that begins in any given fiscal year, but rather as an ongoing enhancement, or modernization, of existing AISs to expand functionality.

EXHIBIT V-1

**DLA Systems Integration
Projects that Have Aided
Mission Objectives**

- SAMMS I3
- MOCAS
- DISMS
- DIDS

Note: 78% of HQ respondents indicated SI projects aided in completion of DLA's mission.

SAMMS—The Standard Automated Materiel Management System—has been a batch system processing function for hardware, medical, and clothing and textiles (C&T) commodities. Under the SAMMS I3 (SAMMS Immediate Improvement Initiative) project, DLA is developing a data base computer platform and an on-line processing system that will standardize data shared across all subsystems of supply operations. The prototype system was developed in 1989, and it will be operational in one of the five supply centers during 1990, with expansion to the other supply centers to follow shortly. National Capitol Systems, Inc. (NCSI) is the integration contractor for SAMMS I3. Cataloging Tools On-line (CTOL) is another procurement under the SAMMS initiative that was in the source selection phase at the writing of this report. It will acquire minicomputers and optical storage devices to support Item Identification (II) for the National Stock Numbers (NSNs) and item supply request processing for all DLA Supply Centers. DLA is also augmenting its ADPE architecture for SAMMS and MOCAS with the acquisition of Gould UNIX-based minicomputers, through the DMINS (Distributed Minicomputer Systems) procurement awarded to Falcon. This will facilitate decentralized data processing across all AISs.

MOCAS —The Mechanization of Contract Administration Services—was initiated in 1988 to process the contract portion of procurements. No new major enhancements are planned for this system, but the agency will expand accessibility to the system to more local users and will acquire additional workstations to support this effort. Anticipated mission changes may also drive the need to expand MOCAS hardware requirements through the acquisition of refurbished equipment.

DISMS—The Defense Integrated Subsistence Management System—is a computer-based supply system for managing perishable and semiperishable commodities worldwide for troop consumption and resale in commissaries. DISMS integrates with contract administration AISs across all DCASRs.

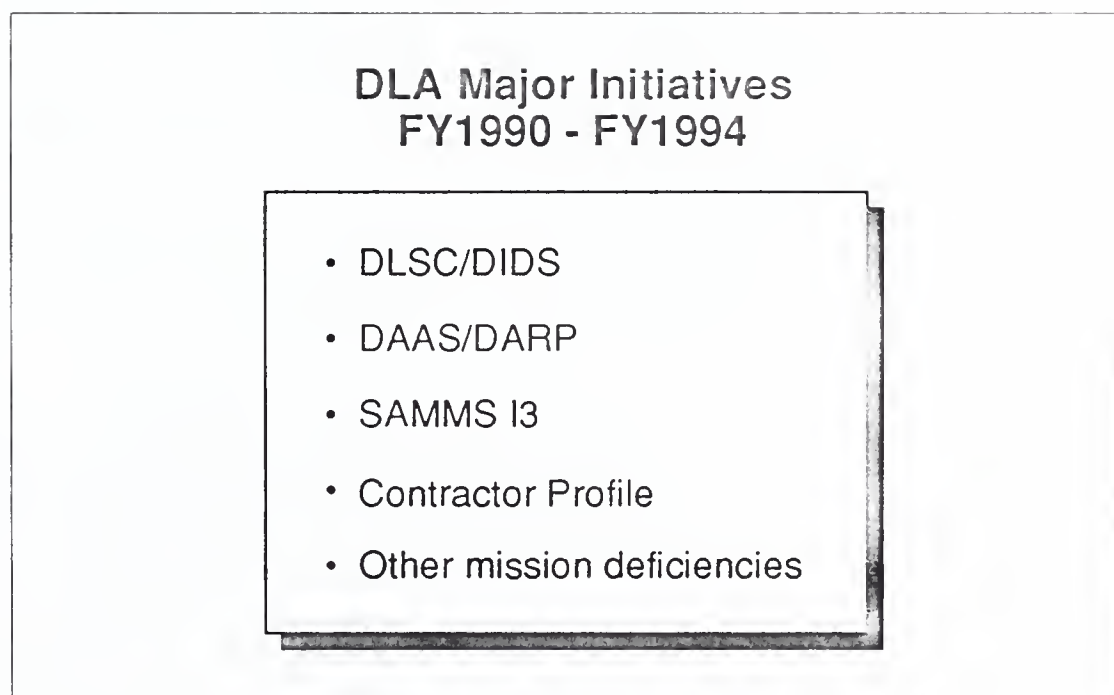
DIDS—The DLA Inventory Data System—is physically located at DLSC, Battle Creek, MI and is an AIS that supports the NSN and the Federal Catalog System, functioning as a central repository for data on all supply items. A procurement is currently underway to modernize DIDS operations for hardware and software which will extend access to a larger customer base. MVS-based systems are not required for new DIDS hardware. An award is targeted for early 1990. FEDLOG, a new acquisition involving CD ROM technology to support the Federal Catalog System, should be released shortly for bids. The Government Printing Office (GPO) is acting as the contracting authority for the CD ROM-based parts catalog and will handle the distribution of the finished product.

B

Major Initiatives, FY1990-FY1994

The major modernization initiatives that DLA will be focusing on during the 1990-1994 timeframe are shown in Exhibit V-2.

EXHIBIT V-2



Efforts to modernize and add new capabilities to the existing DIDS, and improvements to SAMMS in terms of the SAMMS I3 project have been presented in the preceding section of this chapter.

The existing Defense Automatic Addressing System (DAAS) operates in a batch mode. It routes requisitions for supply items to supply sources. DLA is modernizing the DAAS to function as a real-time, random access,

multiprocessing system. The DAAS ADPE Replacement and Modernization Program (DARP), anticipated for contract award in two phases during 1990 (DAASO Network Control System-DNCS) and 1991 (DAASO Logistics Information Processing System-LIPS), will be an immediate on-line system that can accommodate an increased volume of transactions and allow for immediate routing of supply item transactions to supply sources.

DLA anticipates releasing an RFP shortly on a major new AIS; the Contractor Profile. The RFP will solicit contractor assistance for systems engineering support. This large data base of contractor information will allow DLA to prequalify suppliers of commodities and reduce manpower-intensive paperwork associated with preaward and postaward surveys.

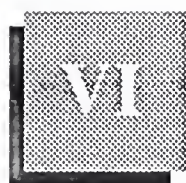
Recent budget cuts, coupled with anticipated mission growth, are impeding DLA from announcing any other planned major initiatives at this time. All functional deficiencies in agency systems are outlined in the agency's Conceptual Functional Requirements document issued in 1988. DLA hopes to begin, in 1991, a phased effort of major initiatives that should offer vendors major opportunities at the rate of two or three per year.

The agency does expect to expand the DAISY (Disposal Automated Information System) system, which is managed by the Defense Reutilization and Marketing Service (DRMS). The DRMS has responsibility for handling excess property among the Armed Forces. The \$93 million DAISY project utilizes Gould superminicomputers and AT&T hardware that is being procured through the AFCAC 251 contract.

DSAC (DLA Systems Automation Center) is also expected to expand its efforts in response to increased user demands and associated LSMP projects.

DLA will continue its efforts to modernize the DLA Warehousing and Shipping Procedures (DWASP) to improve overall depot operations, and achieve increased processing capacity to meet customer demands. During the last quarter of calendar-year 1989, DLA awarded several contracts, whose collective value was estimated at \$10 million, to upgrade depot information systems. Additional CPUs, mobile communications devices, and communications processors will enhance depot operations. The agency's current use of automated identification systems (bar coding) and EDI will also be increased to facilitate automated supply and transportation status.

Opportunities for vendors to enhance DLA's operations of the Defense Technical Information Center (DTIC) should also be released between 1990 and 1994.



Acquisition Plans and Procedures

A

Use of Information Services Vendors

DLA is using information systems and services vendors as a result of its overall emphasis on increasing and modernizing information processing within the agency. Contractors can provide technical experience and expertise that is often not available within the agency. Exhibit VI-1 lists the rankings given by both HQ policy level and field respondents for information systems and services usage within the agency.

EXHIBIT VI-1

Agency Ranking of Information Systems and Services Used the Most at DLA

Information Systems & Services Categories	Rank*		
	Policy Staff	Field Staff	
		FY88	Future
Hardware	1	2	2
Professional Services	2	6	5
Software Products	3	1	1
Processing Services	4	5	7
Network Services	5	2	4
Systems Integration	6	4	3
Turnkey Systems	7	7	5

*Rank based on frequency of mention.

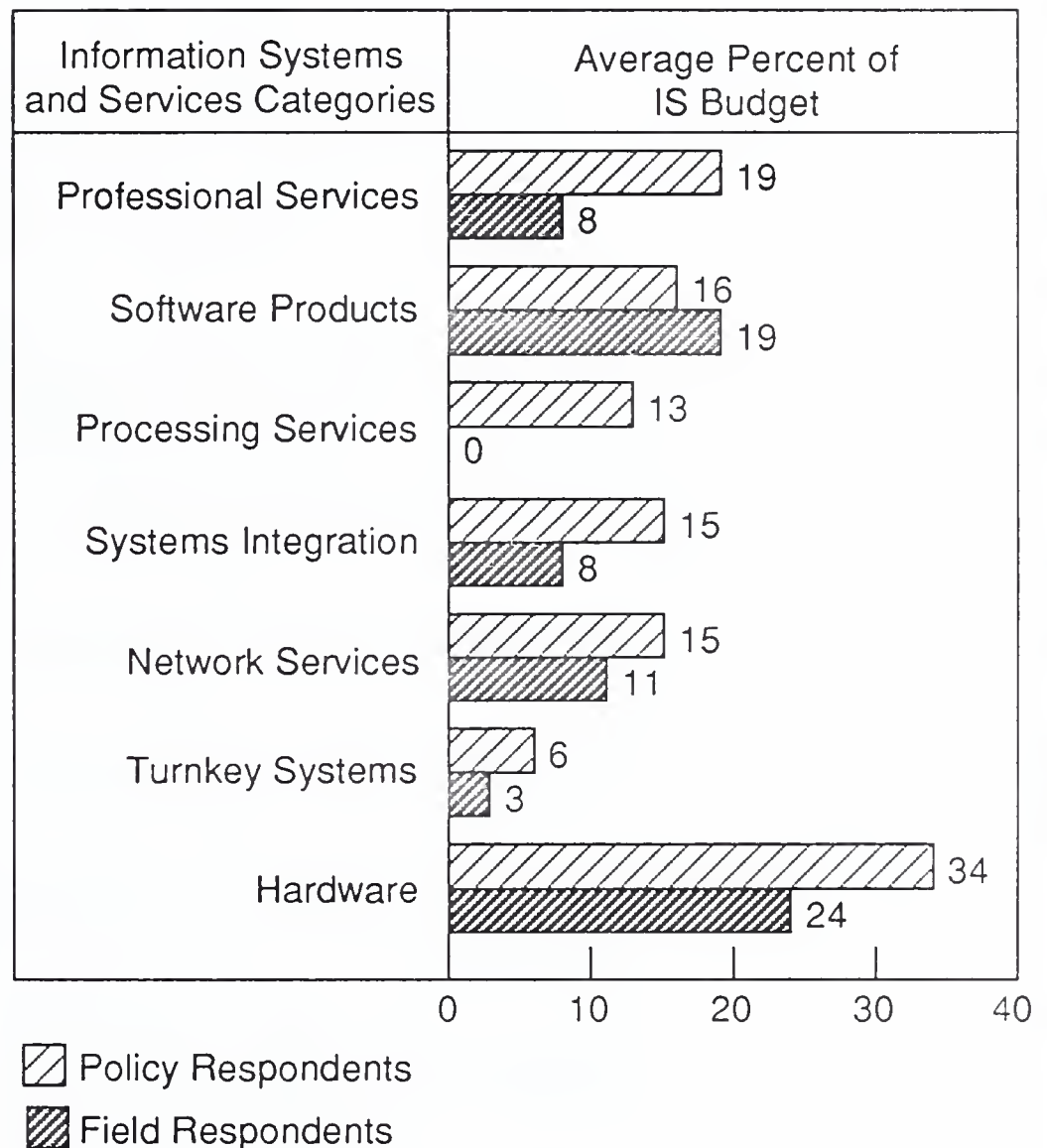
The difference in rankings between both groups of respondents reflects their respective involvement in ADP/T acquisitions to automate agency functions. Policy level respondents ranked hardware, professional services, and software products in corresponding 1,2,3 order. This group is involved in overall DLA information systems planning and life cycle management of AISs. As explained in the next paragraph, field respondents, however, placed more emphasis on software products, network services, hardware, and systems integration.

Although field respondents were primarily OTIS Directors from Primary Level Field Activities (PLFAs), their close involvement with their functional user organizations reflects their prioritizing of systems and services that were used in FY1988 and those that are planned. OTIS Directors have responsibility for management, installation, conversion, training, and operation of ADP facilities at their PLFAs. Field OTIS Directors must ensure that ADP is accomplished for their functional groups and have little need for professional services contractors as HQ planners do.

The perceived percent of information systems budget (see Exhibit VI-2) spent within each category of systems and services during FY1988 has similarities to the rankings given by both HQ and field respondents in Exhibit VI-10. The policy sample indicated the largest percentages of budget were spent for hardware, professional services, and software. Field respondents identified that acquisitions for hardware, software, and network services had the highest priorities in their FY1988 budgets.

EXHIBIT VI-2

**Percent of Information Systems (IS)
Budget Spent in Categories of IS
FY1988**



Note: Averages do not add to 100% because they are averages.

B

Changes in Contracted Services

The projected changes in the acquisitions of information systems and services over the next five years, as viewed by both HQ and field respondents, is reflected in Exhibits VI-3 and VI-4. Again, the percentages of responses of both groups reflect the nature of their functional responsibilities within the DLA organization. In general, larger percentages of policy level respondents projected increases in all categories of services, as expected by their oversight and information systems planning roles.

Fewer field respondents anticipated increases in information services, as indicative of their more operational/functional responsibilities. Fewer respondents in both groups forecasted increases for contracted processing services over the next five years. This has traditionally been a low market area for DLA because most information processing has been accomplished in-house by DLA personnel.

EXHIBIT VI-3

**Projected Changes in Information Systems
Acquisitions by Service Category —
Policy Respondents
FY1990 - FY1994**

Service Category	Percent			
	Respondents Expecting Increase	Average Increase Predicted	Respondents Expecting Decrease	Average Decrease Predicted
Professional Services	80	7	-	-
Software Products	60	16	10	N/A
Processing Services	40	6	30	10
Systems Integration	70	12	10	N/A
Network Services	50	15	10	N/A
Turnkey Systems	60	6	20	10
Hardware	70	12	-	-

Note: Based on total number of survey respondents.
N/A = not available.
Rows will not add to 100%, read column headings.

EXHIBIT VI-4

**Projected Changes in Information Systems
Acquisitions by Service Category —
Field Respondents
FY1990 - FY1994**

Service Category	Percent			
	Respondents Expecting Increase	Average Increase Predicted	Respondents Expecting Decrease	Average Decrease Predicted
Professional Services	43	55	7	N/A
Software Products	64	31	-	-
Processing Services	21	N/A	7	N/A
Systems Integration	64	43	-	-
Network Services	64	13	-	-
Turnkey Systems	43	5	-	-
Hardware	57	38	7	N/A

Note: Based on total number of survey respondents.

N/A = not available.

Rows will not add to 100%, read column headings.

The average increases predicted by HQ personnel are closer to INPUT's assessment of future opportunities for vendors in each service category. INPUT expects only modest increases of approximately 1% for acquisitions for professional services, processing services, and turnkey systems by the agency. Software products, systems integration and hardware acquisitions should experience slightly higher increases ranging from 5%-10%. The network services area is expected to grow by approximately 20%, based on agency projections to expand information processing to end users and connect with suppliers, customers, and other federal agencies. DAASO's DNCS procurement and DLSC's DIDS procurement will strengthen DLA's ability to provide enhanced network services.

C

Application Areas

Agency respondents were asked about the types of applications the agency contracted to vendors in the past few years, and the types they hoped to contract through FY1994. As Exhibit VI-5 summarizes, DLA has used, and plans to use, vendor services for a broad range of applications areas. Those categories of applications that require central management and control, such as human resources/payroll and accounting, were mentioned appropriately by the group responsible for the development of central agency-wide applications—the HQ policy level respondents. The only new application that policy level respondents foresaw being contracted in future years is the human resources/payroll area.

EXHIBIT VI-5

Applications Contracted to Vendors

Application Types	Past Contracted FY1986 - FY1989		Planned to Contract through FY1994	
	Policy Respondents	Field Respondents	Policy Respondents	Field Respondents
Information Analysis	X	X	X	X
Human Resources/ Payroll			X	
Word Processing	X	X	X	X
Electronic Mail	X	X	X	X
Electronic Publishing	X	X	X	X
Graphics	X	X	X	X
Logistics/Distribution	X	X	X	X
Accounting	X		X	
Management Systems	X	X	X	X
Scientific/Engineering	X	X	X	X
Project Management	X	X	X	X

There appears to be few opportunities for vendors to provide ongoing support services for completed services contracts at DLA. Agency respondents were asked whether DLA usually transfers continued support in-house or leaves support with contractors when a commercial services contract is completed. As depicted in Exhibit VI-6, the majority of systems maintenance or enhancement functions have been performed by DLA in-house staff at DSAC. It is apparent from the responses to this question that incumbent contractors should leverage their presence to pursue new opportunities, rather than expanding their support of old ones.

EXHIBIT VI-6

**Performance of Continued Support
for Completed Commercial
Services Contracts**

Performed By	Percent of Respondents
In-house staff	80
Contractor provided	0
Varies/mix	20

DLA's modernization efforts that support departmental/end-user computing agency-wide are reflected in the various hardware classes that are currently employed to run agency applications. Exhibit VI -7 illustrates that all application types are running in a three-tier architecture environment. Applications such as human resources/payroll, logistics/distribution, accounting, and scientific and engineering were mentioned more frequently by respondents as associated with mainframe operations. Those applications that tend to be used at higher frequency levels by end-users—electronic publishing, graphics, and project management—were cited by more respondents as running on smaller classes of machines.

EXHIBIT VI-7

Hardware Classes Employed for DLA Applications

Application Types	Percent of Policy Respondents Indicating Hardware Class Use*		
	Mainframe	Midsize	Micro
Information Analysis	37	41	23
Human Resources/ Payroll	54	33	13
Word Processing	14	53	33
Electronic Mail	16	58	26
Electronic Publishing	9	36	55
Graphics	15	39	46
Logistics/Distribution	47	32	21
Accounting	45	35	20
Management Systems	37	32	32
Scientific/Engineering	50	33	17
Project Management	11	50	39

*Rows may not add to 100% due to rounding.

D

Selection Criteria

The rankings by DLA respondents as to which criteria are the most important in the selection of an information systems and services contractor are listed in Exhibit VI-8. The proposed “functionality” by the contractor of a system or services solution was the primary criterion for selection, according to agency respondents. In previous INPUT studies of the federal market, agencies have traditionally never failed to identify the “technical solution” as their primary contractor selection criterion. DLA respondents have differentiated the functionality of a solution from

its technical components, which may or may not provide the “functional-ity” sought by the agency. The proposed technical solution is a subset of the functional capabilities of a proposal.

EXHIBIT VI-8

Relative Ranking of Criteria Used in Selection of Information Systems and Services Contractors

Selection Criteria	Agency Ranking*
Functionality	1
Life cycle cost	2
Contract type	3
Technical solution	4
Risk containment procedures	5
Initial cost	6

*Based on average rank score by respondents.

As with most agencies, DLA respondents selected life-cycle cost as the second most important criterion because of budgetary conflicts encountered on the way to project authorization and overall funding problems. In many cases, agency respondents put functionality first and cost second, only to be reversed by the contracting officer. With DLA about to issue or award several notable procurements, it will be interesting to see which criteria take precedence.

E

Contract Types

Contracting services required by DLA HQ and DLA field activities for ADP/T resources reside in DLA-Z's DACO organization. Contracting policy and guidance are provided by the DLA-P organization, also located at HQ. Agency HQ policy respondents indicated a majority preference for fixed-price contracts for all types of vendor-provided systems and services with only one exception. Fixed-labor contracts were the preferred contracting vehicle for acquiring network services, as seen in Exhibit VI-9.

EXHIBIT VI-9

Policy Respondents' Preferences for Information Systems and Services Contract Type

Service Category	Contract Type Preference Percent of Respondents			
	Cost Plus	Fixed Price	Fixed Labor	Mix
Professional Services	-	71	14	14
Software Products	-	86	14	-
Processing Services	20	40	20	20
Systems Integration	14	43	14	29
Network Services	-	20	60	20
Turnkey Systems	-	57	29	14
Hardware	-	57	29	14

Note: Rows may not add to 100% due to rounding.

Many of the HQ respondents were staff members in the Z and P organizations. They were aware that systems or services requirements should dictate contract type, even though government agencies generally prefer fixed-price contracting because it places primary responsibility for a project on the contractor.

Field level respondents showed a stronger preference for fixed-price contracts for all types of systems and services than HQ personnel, perhaps as a result of their functions as COTRs and CORs for field-driven initiatives (see Exhibit VI-10).

EXHIBIT VI-10

Field Respondents' Preferences for Information Systems and Services Contract Type

Service Category	Contract Type Preference Percent of Respondents			
	Cost Plus	Fixed Price	Fixed Labor	Mix
Professional Services	-	67	11	22
Software Products	-	100	-	-
Processing Services	-	100	-	-
Systems Integration	11	67	-	22
Network Services	-	88	-	13
Turnkey Systems	-	100	-	-
Hardware	20	60	-	20

Note: Rows may not add to 100% due to rounding.

F

Target Environments

Field personnel were asked what type of hardware environments were targeted for DLA information systems through FY1994. Their responses are listed in Exhibit VI-11. All respondents specified a multiple architecture approach. More than 60% indicated that DLA will use a three-tier approach for future information systems. The survey responses manifest the agency's modernization direction for information processing: connectivity of information and the sharing of data among multiple systems and users.

EXHIBIT VI-11

Target Hardware Environments	
Hardware Type	Percent of Respondents
Mainframe	92
Midsized	85
Micro	77

Note: 62% indicated a combination of all three hardware types.

G

Methods for
Acquiring Future
Services/Systems

The mounting demands for modernization of agency systems will force DLA to meet its future information systems and services requirements through an array of acquisition methods, as shown in Exhibit VI-12. According to those surveyed, “the purchase of integrated systems or solutions” will be the primary method of acquisition. Buying hardware separately without in-house or outside integration services was the next most frequently cited method, indicating that a large number of DLA hardware acquisitions will only be upgrades or expansions of existing systems. Agency respondents also planned to purchase turnkey systems and hardware components along with an integrator contractor to meet their systems’ demands over the next few years. Other acquisition methods were seldom mentioned.

The average number of systems that field respondents expected their groups will either add, replace, or upgrade within the next five years is 4.2 as shown in Exhibit VI-13. This figure represents a healthy amount of opportunities for vendors that currently compete, or desire to compete, in the DLA information systems market. Systems opportunities will range in complexity and size based on whether they will be locally driven and deployed or designed to support agency-wide missions. Many small purchases that support end-user connectivity and result in productivity gains will be initiated out of the information centers at the PLFAs, and do not require DLA-Z approval.

EXHIBIT VI-12

DLA Acquisition Methods for Information Systems FY1990 - FY1994

Method	Percent of Field Responses*
Buy hardware	39
Buy integrated systems	54
Buy turnkey systems	23
Buy hardware separately and use an SI contractor	23
Buy hardware separately and do integration in-house	8
Buy operational support with hardware	8
Move applications to other agency centers	8
Move applications to COCO facilities	8

*Does not add to 100% due to multiple responses.

EXHIBIT VI-13

Field Plans to Implement Information Systems Through FY1994

Percent of Respondents	Average Number of Systems
100	4.2

H**Factors/Trends
Impacting
Acquisitions**

Acquisitions made by federal agencies are always affected by pressures that may be agency inherent, or are unique to the federal market. DLA respondents viewed their information systems plans being affected by three types of pressures, as listed in Exhibit VI-14. The issue of reduced program funding as a result of the Gramm-Rudman-Hollings Act and the federal government's deficit continues to play a role in DLA's acquisitions of information systems and services as it does in other federal agencies. Generally, funding constraints reduce the number of procurements and lengthen procurement schedules of the surviving programs. DLA, however, will be accomplishing information systems modernization via modular incremental contracts, and thereby eliminate the massive annual funding required to support a large-scale effort.

EXHIBIT VI-14

**Perceived External
Pressures Affecting
Information Systems Plans**

- Funding issues
- Acquisition procedures
- OSD requirements

Federal acquisition procedures also play a part in complicating and lengthening the process of acquiring contractor equipment and services. In the past, DLA has partially circumvented this problem by frequently using 8(a) contractors. DLA, unlike other government agencies, reports directly to OSD. Respondents perceived this additional reporting structure as placing additional pressures and requirements on the agency.

Agency respondents cited many industry trends and technological improvements impacting DLA's acquisition plans for information systems over the next five years, some of which are listed in Exhibit VI-15. The availability of smaller but more powerful hardware has allowed DLA to evolve its systems modernization efforts to include end-user computing. The evolution of departmental processing and the advancements in DBMS technology have allowed the agency to connect users in network configurations that permit the sharing of data across functional responsibilities within the agency. The automation of previously performed manual tasks, in the areas of order processing and inventory control,

produces a much more efficient DLA agency that supports the Armed Forces' need for goods and materials. Artificial intelligence and optical technology products also streamline daily information processing operations. DLA will utilize EDI to create the Electronic Supplier/Customer Network (ESCN) with suppliers. It permits procurement by computer. Benefits to the agency include speeding the transaction cycle, reducing inventoried items, and improving cash flow. The network will promote greater efficiency with contractors for order fulfillment operations. Agency compliance with industry and government standards will assure intersystem compatibility resulting in shared data access agency-wide.

EXHIBIT VI-15

Industry Trends and Technology Factors Impacting DLA's IS Plans FY1990 - FY1994

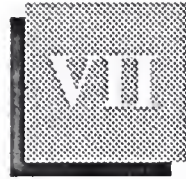
- Smaller powerful computing technology
- DBMS technology
- Artificial intelligence
- EDI
- Optical technology
- Standards
- Total quality management
- Corporate mergers

DLA is also heavily involved in CALS development and implementation, which will create technical data standardization for automation of weapons systems' support from design to disposal.

"Total Quality Management (TQM)" is impacting how DLA structures its in-house and contractor-provided systems. The "do it right the first time" approach affects the way DLA will deal with industry vendors and what is expected from them in performance. DLA's own DAISRC

approval/monitoring process for information technology acquisitions is also in part a response to the federal government's emphasis on TQM.

Lastly, agency respondents believed that the increasing trend of "corporate mergers" among industry vendors does have an affect on ADP/T resources acquisitions. DLA, not unlike other agencies, can not help but to cautiously select contractors whose longevity in the marketplace is expected to continue.



Vendor Views

A

Products and Services

Current and planned information systems and services provided to DLA by vendor respondents cover a wide range; the principal categories are listed in Exhibit VII-1.

EXHIBIT VII-1

Vendor Ranking of Current and Planned Information Systems and Services Provided to DLA

Service Category	Rank*	
	FY1988	Planned Through FY1994
Hardware	3	5
Professional Services	1	1
Software Products	1	4
Processing Services	-	7
Network Services	3	6
Systems Integration	5	2
Turnkey Systems	6	3
Other	6	8

*Rank based on frequency of mention by respondents.

Each category is ranked on the basis of its frequency of mention by vendor respondents. The largest share of vendors provided professional services and software products under their current contracts with the agency during FY1988. Vendors indicated some differences, however, in the types of services they anticipate providing to the agency through FY1994. They expect to provide less hardware, software, and network services and more systems integrator services and turnkey systems than previously. Vendor projections were similar to those of agency respondents (see Exhibit VI-1) with the exceptions of hardware and software.

Vendors' views on the most attractive opportunities that could result in contracts at DLA for their systems and services are profiled in Exhibit VII-2 and are similar with their projections presented in Exhibit VII-1. One cannot assume that industry respondents equated planned services and most attractive opportunities as having the same meaning. Planned services actually indicate current contractual obligations from the agency. Based on their responses, vendors believe there are many more opportunities for contracted network services at DLA than are currently in place. Systems integration projects head the list for future opportunities, whereas previously it was ranked in second place.

EXHIBIT VII-2

Vendor Ranking of Most Attractive Opportunities for Information Systems and Services at DLA

Systems/ Services	Rank*
Systems Integration	1
Professional Services	2
Network Services	3
Turnkey Systems	3
Software Products	5
Processing Services	6
Hardware	6

*Rank based on frequency of mention by respondents.

The vendors' perceptions of opportunity areas are at slight odds with INPUT's predictions. There will be significantly more network services contracts let by the agency than systems integration contracts.

In order to maximize their agency exposure and revenue dollars, contractors often position themselves as teaming partners or subcontractors to another vendor if they are unable to "prime" bid a procurement. Exhibit VII-3 shows that the vendors in this study have often found it expedient to participate with other vendors as subcontractors or teaming partners to win DLA contracts. Vendors do not usually team or subcontract on those contracts that require a single type of solution or specific expertise, such as processing services, or as a turnkey systems provider.

EXHIBIT VII-3

Vendor Participation with Other Contractors in DLA Contracts

Systems/ Services	Percent of Respondents Providing Services as a Subcontractor/Teaming Partner
Professional Services	63
Software Products	63
Processing Services	13
Systems Integration	38
Network Services	50
Turnkey Systems	13
Hardware	50

The majority of industry respondents surveyed were not the recipients of any DLA contracts for support services that were previously performed by in-house agency personnel, as shown in Exhibit VII-4. Only 10% had ever won these types of contracts from the agency. For the most part, DSAC continues to perform DLA's systems support services and very rarely transfers this responsibility to contractors regardless of whether the systems have been developed internally or with contractor assistance.

EXHIBIT VII-4

**Vendor Contracting for DLA
Support Services Previously
Performed by Agency**

Received Contract for Support Services?	Percent of Respondents
Yes	10
No	90

B**Changes in
Contracted Services**

Seventy percent of the industry respondents expected changes in the amount of information systems and services their companies would provide to DLA through FY1994. Of this group of contractors, 71% expected large increases in both systems integration and professional services contracts, with average percent increases of 85% and 100%, respectively (see Exhibit VII-5). The average percent increase was derived from the respondents' expected percentage growth in each service category for their companies. Forty-three percent also projected increases of 75% for network services and turnkey systems. Industry and agency HQ respondents (see Exhibit VI-3) appear to agree on which categories will grow. They disagree on the percentage increases for each category of services. Vendors' responses represent their companies' expected increases in contracting for each category of services, not changes in overall agency opportunities. Agency personnel were more conservative in their growth estimates for acquisitions of systems and services.

EXHIBIT VII-5

Vendor-Expected Changes in Contracting for Information Systems and Services at DLA FY1990 - FY1994

Service Category	Percent*			
	Expecting Increase	Average Increase	Expecting Decrease	Average Decrease
Professional Services	71	100	-	-
Software Products	29	N/A	-	-
Processing Services	22	N/A	-	-
Systems Integration	71	85	14	N/A
Network Services	43	75	-	-
Turnkey Systems	43	75	-	-
Hardware	21	83	-	-

N/A = Not Available.

*Based on the total number of respondents.

Note: 70% anticipated a change in the amount of IS their companies would provide to DLA through FY1994.

C

Application Areas

The vendors were asked about the types of applications DLA contracted in the past and what types they expect the agency to contract out over the next five years. Their responses are ranked, and the planned applications are contrasted with past applications in Exhibit VII-6. Application areas such as information analysis and logistics/distribution were viewed as the most frequently contracted to vendors, and these are expected to continue to be over the next five years. Vendors predicted less contracting opportunities than previously let by the agency for human resources/payroll, scientific/engineering, and accounting applications. Applications devel-

oped in these areas tend to have long life cycles and are not requested by multiple functional groups. They are usually requirements of one central organization within an agency. Vendors did project that the management systems area will offer significant opportunities for contractor services.

EXHIBIT VII-6

Vendor Perceptions of DLA Applications Contracted to Vendors

Application Types	Rank*	
	Past Contracted	Planned to Contract
Scientific/Engineering	1	7
Information Analysis	2	1
Logistics/Distribution	2	1
Human Resources/Payroll	4	11
Word Processing	4	7
Accounting	4	10
Project Management	4	4
Electronic Publishing	8	5
Electronic Mail	9	7
Graphics	9	5
Management Systems	11	1

*Rank based on frequency of mention by respondents.

D

Contract Functionality

Although the vendors surveyed by INPUT had contracted with DLA for a wide array of information systems and services, fewer than 20% had completed any mission-oriented contracts. These are contracts that are related to the vagaries of supporting the agency's mission of providing logistics support to the military and other entities. Most contracts support administrative applications, such as those listed in Exhibit VII-7. One notable exception is the DMINS contract with Falcon Data Systems, which primarily supports office applications.

EXHIBIT VII-7

Administrative Services Performed by Contract

- Financial applications
- Payroll applications
- Acquisition support

The lack of mission-oriented contracts within DLA reflects the agency's tradition of performing these contracts in-house. This tradition contrasts sharply with practices of such agencies as NASA and the DOE, which engage heavily in mission contracting. Based on survey responses, neither agency nor vendor personnel expect significant changes in the next few years.

E

Selection Criteria

Vendors believed that DLA is more attuned to cost factors in its evaluation of potential contractors than agency respondents did. A comparison of both vendor and agency rankings of contractor selection criteria is presented in Exhibit VII-8.

EXHIBIT VII-8

Vendor Perception of the Relative Ranking* of Criteria Used in Selection of IS Contractors

Selection Criteria	Vendor Ranking	Agency Ranking
Life cycle cost	1	2
Initial cost	2	6
Technical solution	3	4
Risk containment procedures	4	5
Contract type	5	3
Functionality	N/A	1

N/A = Not Available.

*Based on average rank score by respondents.

Historically, INPUT has found that both agency and industry respondents in other INPUT studies ranked the proposed technical solution as the number one selection criteria. Vendors have begun to diverge from this perception as a result of their recent procurement experiences with federal agencies. DLA respondents ranked functionality first and the technical solution fourth. Agency respondents viewed the technical solution as a subset of the overall functionality of a proposed solution for systems and services.

F

Preferred Contract Types

Vendors expect to provide information systems and services to DLA under a variety of contract types, but predicted that fixed-price contracts would dominate for most categories of information services, as presented in Exhibit VII-9.

EXHIBIT VII-9

Vendor Perceptions of Contract Type Preferences for Information Systems and Services

Service Category	Contract Type Preference Percent of Respondents				
	Cost Plus	Fixed Price	Fixed Labor	Award Fee	Mix
Professional Services	21	36	14	7	21
Software Products	-	100	-	-	-
Processing Services	-	100	-	-	-
Systems Integration	7	57	7	-	29
Network Services	10	40	-	-	50
Turnkey Systems	82	-	-	-	18
Hardware	-	90	-	-	10

The majority noted that cost-plus contracting vehicles will be utilized for turnkey systems acquisitions. Although the profit margin for cost-plus contracting is more regulated, vendors generally prefer this type of contracting for delivering turnkey systems because the government assumes more risk. Detailed requirements must be provided to a vendor in order to develop and/or deliver turnkey systems. In contrast, both groups of agency respondents (see Exhibits VI-9 and VI-10) preferred either fixed-price labor-hour, or fixed-price contracting for turnkey systems, clearly indicating a preference for placing all the risks associated with delivering turnkey systems with the contractors.

Acquired network services was the only category in which vendors predicted that a mix of contracts would be employed by DLA. A major portion of the HQ agency respondents indicated a strong preference for fixed-labor contracts for network services solicited from vendors.

In other INPUT studies, vendors usually selected a "mix" of contract types that facilitate flexibility in responding to the requirements of a proposed system or service. It is unclear, however, whether the vendors' overall selection of fixed-price contracting in this study reflects their prediction of what type of contracting vehicle DLA will use for services, or if it indicates the vendor's own preferences for a contract vehicle. If their selection reflects their own preferences, it is as a result of contractors becoming more confident in their contract management skills and believing they can maximize profitability with fixed-price contracting.

G

Factors Affecting DLA Spending

Most vendors surveyed by INPUT did not believe that the Gramm-Rudman-Hollings Act or other federal budget constraints have had a significant impact on DLA's acquisitions of information systems and services. Exhibit VII-10 ranks their views on the effects of budgetary tightening on DLA acquisitions.

EXHIBIT VII-10

Vendor Views of the Impact of Budget Constraints on DLA Information Systems and Services Acquisitions

Impact	Rank*
Minimal	1
Delays project schedules	2
Procurements downsized	3

*Based on frequency of mention by respondents.

Vendors did not believe that overall information systems projects were cut to any significant degree, only that their schedules were possibly delayed or that the projects were downsized. Smaller procurements require less scrutiny by Congress and DoD and correspondingly less funding appropriated in any given fiscal year.

In response to the federal government's mandate that OSI-compatible systems be developed throughout federal agencies, vendors indicated that vendor adherence to POSIX and GOSIP standards are requirements in providing systems to DLA, as shown in Exhibit VII-11.

EXHIBIT VII-11

**Standards Impacting DLA
Acquisitions of Information
Systems and Services—
Vendor Perceptions**

- POSIX
- GOSIP
- UNIX
- Ada
- CALS
- MVS

Other government and systems standards that affect the types of systems acquired by DLA are Ada, CALS, UNIX, and MVS. The DoD's commitment to Ada as a programming tool will impact DLA as an agency that must comply to DoD directives in the out-years. The agency's compliance with CALS standards will speed logistics support services provided to the military services. DLA's current operating environments employ UNIX and MVS and will continue to do so. Vendors are well aware that DLA will not consider any new systems that are not compatible with the existing environment. Standardized systems that can be accessed agency-wide are the driving force behind DLA information systems modernization efforts. Standardized requirements across the DoD are also creating umbrella contracts for equipment and off-the-shelf software that minimize the number of opportunities for vendors in general, but can mean significant income for the lucky vendor(s) that supply DoD requirements across the services.

Vendors were asked which technology changes or innovations would impact how DLA accomplishes information processing over the next five years. Exhibit VII-12 ranks their views. The improvements in DBMS technology that have given rise to distributed data base processing in network environments was ranked first, and these improvements support DLA decentralization and modernization initiatives. More powerful mainframes will accommodate the large-machine resources necessary to support merging of large data bases at the top level. The increased availability of optical technology, such as storage devices and scanners, will streamline day-to-day operations in managing logistics services for DLA's military customers.

EXHIBIT VI-12

Vendor Views of Technology Changes Impacting Information Processing at DLA

Technology Changes	Rank*
Distributed data base/ network systems	1
Optical technology	2
More powerful mainframes	3

*Based on frequency of mention by respondents.

I

Marketing Differences

Industry respondents were asked what differences they perceived between marketing to DLA versus other federal agencies. Their responses are shown in Exhibit VII-13. Vendors cited several differences that are more problematic with DLA than with other agencies. Often RFPs have been less than precise in defining systems requirements, implying a lack of understanding by the agency. Explicit SOWs and RFPs are critical to contractors in preparing bid proposals and executing contracts successfully. The agency's internal structure was viewed as not being conducive to organized acquisitions of systems, and as a result the acquisition process tended to be more lengthy than with other agencies. The recent reorganization of the DLA-Z staff is expected to lighten many vendors' concerns and promote systems management and accountability within DLA.

EXHIBIT VII-13

Differences in Marketing to DLA

Marketing Differences	Rank*
RFP problems/issues	1
Unorganized	2
More political	3
Logistics background required	3
Sensitivity to OSD	5
Slow decision process	5
Magnitude of services contracted	7

*Rank based on frequency of mention by respondents.

Other characteristics of marketing to DLA included: vendors should possess a logistics background to functionally understand agency requirements; and the agency is more sensitive to OSD directives than other DoD agencies. This reflects the shortened control link between OSD and DLA.

Additionally, DLA's unique worldwide mission to provide logistics services to all military agencies was viewed as presenting some unique opportunities for vendors. The size and interoperability of systems' requirements demand innovative solutions from contractors desiring to strengthen their marketshares at the agency.

J

Suggested Improvements to Products and Services

The vendor respondents were asked what they believe the vendor community needs to do over the next five years to make their products and services more valuable to DLA. Adherence to government and DLA information processing standards was the primary suggestion expressed by vendors, as listed in Exhibit VII-14. Standards adherence is critical to DLA's information processing modernization program into the 21st century. Vendors that offer "integrated solutions" or that can solve systems interoperability problems appear to have a better chance of winning contracts from the agency.

EXHIBIT VII-14

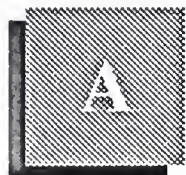
**Suggested Improvements to
Products and Services**

Suggestion	Rank*
Adhere to standards	1
Improve product and vendor performance	2
Provide integrated solutions	3
Market agency aggressively	4

*Rank based on frequency of mention by respondents.

Improvements in product and vendor performance were also cited frequently by the industry respondents. It is critical for vendors to offer products that will perform to, or surpass, DLA requirements. The agency is searching for any avenue that will effect productivity gains as human resources diminish while user requirements increase. Agency scrutiny of "how vendors perform their contracts" is becoming an increasingly important criterion in evaluating contractors for successive contracts.

Vendors need to market their products and services more aggressively to both HQ-Z and functional personnel within the agency. Many vendors contacted by INPUT believed that DLA is an untapped market for their companies. By employing more aggressive marketing strategies that educate DLA personnel on products' technical capabilities and that address mission deficiencies, vendors can hope to gain market share within the agency.



Appendix: Defense Logistics Agency Information Services Market Interview Profiles

A

DLA Agency Interviews

Headquarters Policy Respondents—58% of the interviews were conducted on-site, and 42% were interviewed using a combination of mail and telephone research interview methods. The HQ level respondent group was primarily comprised of DLA-Z staff members, but also included officials from the Directorate of Supply Operations (DLA-O), the Directorate of Contracting (DLA-P), and the Directorate of Technical and Logistics Services (DLA-S).

Field Level Respondents—All interviewees resided in the Office of Telecommunications and Information Systems at DLA Primary Level Field Activities (PLFAs). Respondents were representatives of the following PLFAs:

- Defense Industrial Supply Center
- Defense Depot, Memphis
- Defense Logistics Services Center
- Defense Logistics Agency Systems Automation Center
- Defense Technical Information Center
- DCASR, Boston
- DCASR, Philadelphia
- DCASR, St. Louis

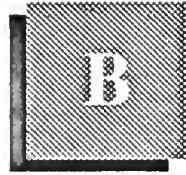
B

Industry Interviews

For this report, INPUT contacted a representative sample of industry vendors that provide information systems and services to DLA.

Job classifications of industry respondents included marketing and corporate level executives.

Contacts with vendor personnel were made by telephone and mail.



Appendix: Definitions

The definitions in this appendix include hardware, software, services, and telecommunications categories to accommodate the range of information systems and services programs described in this report.

Alternate service mode terminology employed by the federal government in its procurement process is defined along with INPUT's regular terms of reference, as shown in Exhibit B-1.

The federal government's unique nontechnical terminology that is associated with applications, documentation, budgets, authorization, and the procurement/acquisition process is included in Appendix C, Glossary of Acronyms.

A

Delivery Modes

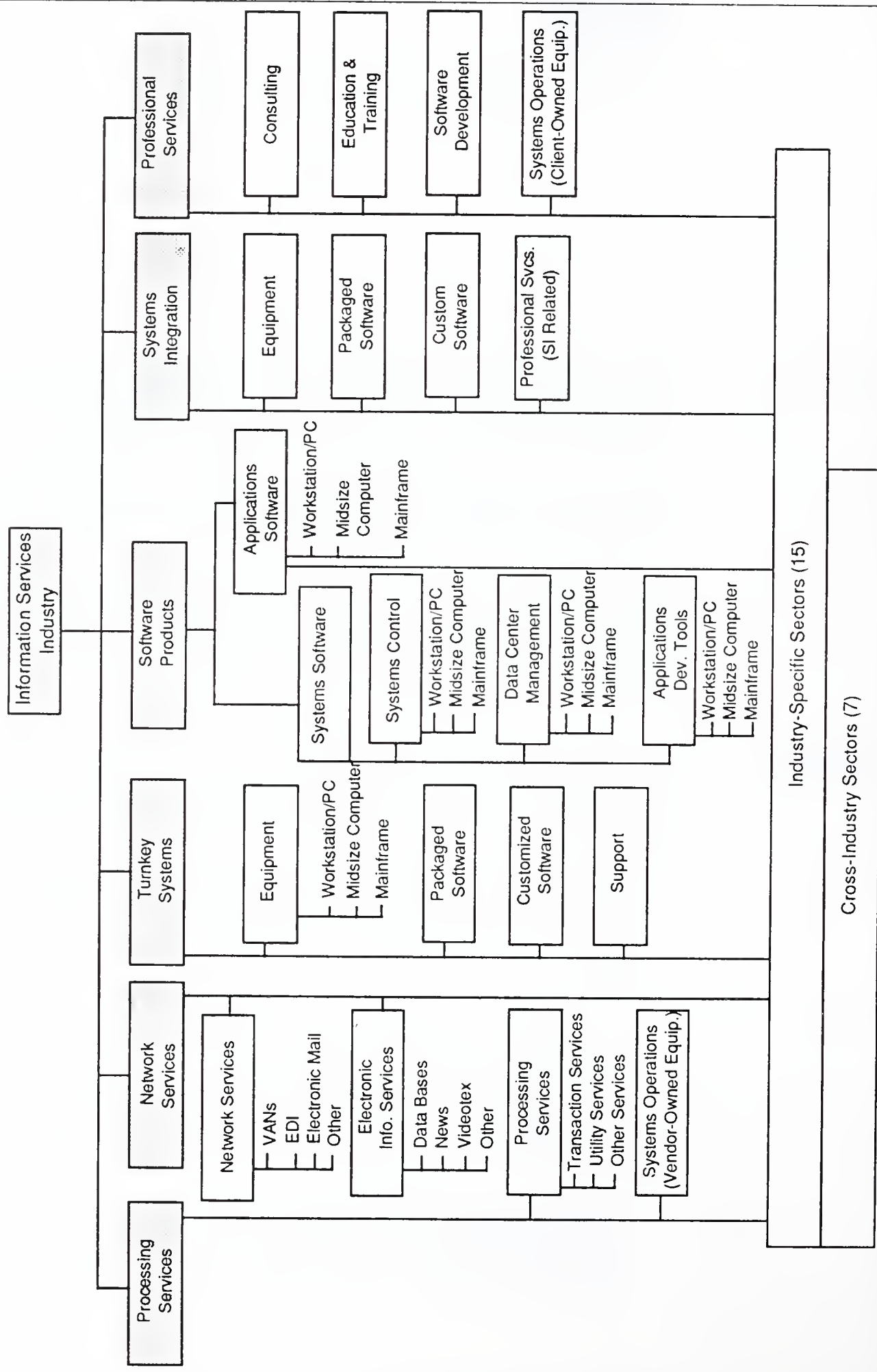
Processing services - This category includes transaction processing, utility processing, other processing services, and processing facilities management.

- *Transaction Processing Services* - Updates client-owned data files by entry of specific business activity, such as sales order, inventory receipt, cash disbursement, etc. Transactions may be entered in one of three modes.
 - *Interactive* - Characterized by the interaction of the user with the system, primarily for problem-solving timesharing, but also for data entry and transaction processing; the user is on-line to the program files. Computer response is usually measured in seconds or fractions of a second.
 - *Remote Batch* - Where the user hands over control of a job to the vendor's computer, which schedules job execution according to priorities and resource requirements. Computer response is measured in minutes or hours.

EXHIBIT B-1

FEDERAL INFORMATION SYSTEMS AND SERVICES PROGRAM INFORMATION SERVICES INDUSTRY STRUCTURE

1989



- *User Site Hardware Services (USHS)* - Those offerings provided by processing services vendors that place programmable hardware at the user's site rather than at the vendor's data center. Some vendors in the federal government market provide this service under the label of distributed data services. USHS offers:
 - ° Access to a communications network.
 - ° Access through the network to the RCS vendor's larger computers.
 - ° Local management and storage of a data base subset that will service local terminal users via the connection of a data base processor to the network.
 - ° Significant software as part of the service.
- *Utility Processing* - Vendor provides access to basic software tools enabling the users to develop their own problem solutions such as language compilers assemblers, DBMS, sorts scientific library routines, and other systems software.

"Other" Processing Services include:

- *Batch Services* - These include data processing at vendors' sites for user programs and/or data that are physically transported (as opposed to transported electronically by telecommunications media) to and/or from those sites. Data entry and data output services, such as keypunching and computer output microfilm processing, are also included. Batch services include expenditures by users who take their data to a vendor site that has a terminal connected to a remote computer for the actual processing. Other services also includes disaster recovery and backup services.
- *Systems Operations (Processing)* - Also referred to as "Resource Management," Facilities Management or "COCO" (contractor-owned, contractor-operated). Systems control is the management of all or part of a user's data processing functions under a long-term contract of not less than one year. This would include remote computing and batch services. To qualify, the contractor must directly plan, control, operate, and own the facility provided to the user—either onsite, through communications lines, or in a mixed mode.

Processing services are further differentiated as follows:

- *Cross-industry* services involve the processing of applications that are targeted to specific user departments (e.g., finance, personnel, sales) but that cut across industry lines. Most general-ledger, accounts receivable, payroll, and personnel applications fall into this category.

Cross-industry data base services, for which the vendor supplies the data base and controls access to it (although it may be owned by a third party), are included in this category. General-purpose tools such as financial planning systems, linear regression packages, and other statistical routines are also included. However, when the application, tool, or data base is designed for specific industry use, then the service is industry-specific (see below).

- *Industry-specific* services provide processing for particular functions or problems unique to an industry or industry group. Specialty applications can be either business or scientific in orientation. Industry-specific data base services, for which the vendor supplies the data base and controls access to it (although it may be owned by a third party), are also included under this category. Examples of industry-specialty applications are seismic data processing, numerically controlled machine tool software development, and demand deposit accounting.

Network Services include a wide variety of network-based function and operations. The common thread is that more of these functions could be performed without network involvement. Network services is divided into several segments: value-added networks (enhanced services), and network applications (electronic information systems).

- *Value-Added Networks (VANs)* - VANs typically involve common carrier network transmission facilities that are augmented with computerized switches. These networks have become associated with packet-switching technology because the public VANs that have received the most attention (e.g., Telenet and TYMNET) employ packet-switching techniques. However, other added data service features such as store-and-forward message switching, terminal interfacing, error detection and correction, and host computer interfacing are of equal importance.
- Network applications include Electronic Data Interchange (EDI) the application-to-application electronic communications between organizations, based on established business document standards, and electronic mail.

Software products - This category includes user purchases of applications and systems software packages for in-house computer systems. Included are lease and purchase expenditures, as well as expenditures for work performed by the vendor to implement or maintain the package at the user's sites. Expenditures for work performed by organizations other than the package vendor are counted in the category of professional services. Fees for work related to education, consulting, and/or custom modification of software products are counted as professional services, provided such fees are charged separately from the price of the software product itself. There are several subcategories of software products, as indicated below and shown in detail in Exhibit B-2.

EXHIBIT B-2

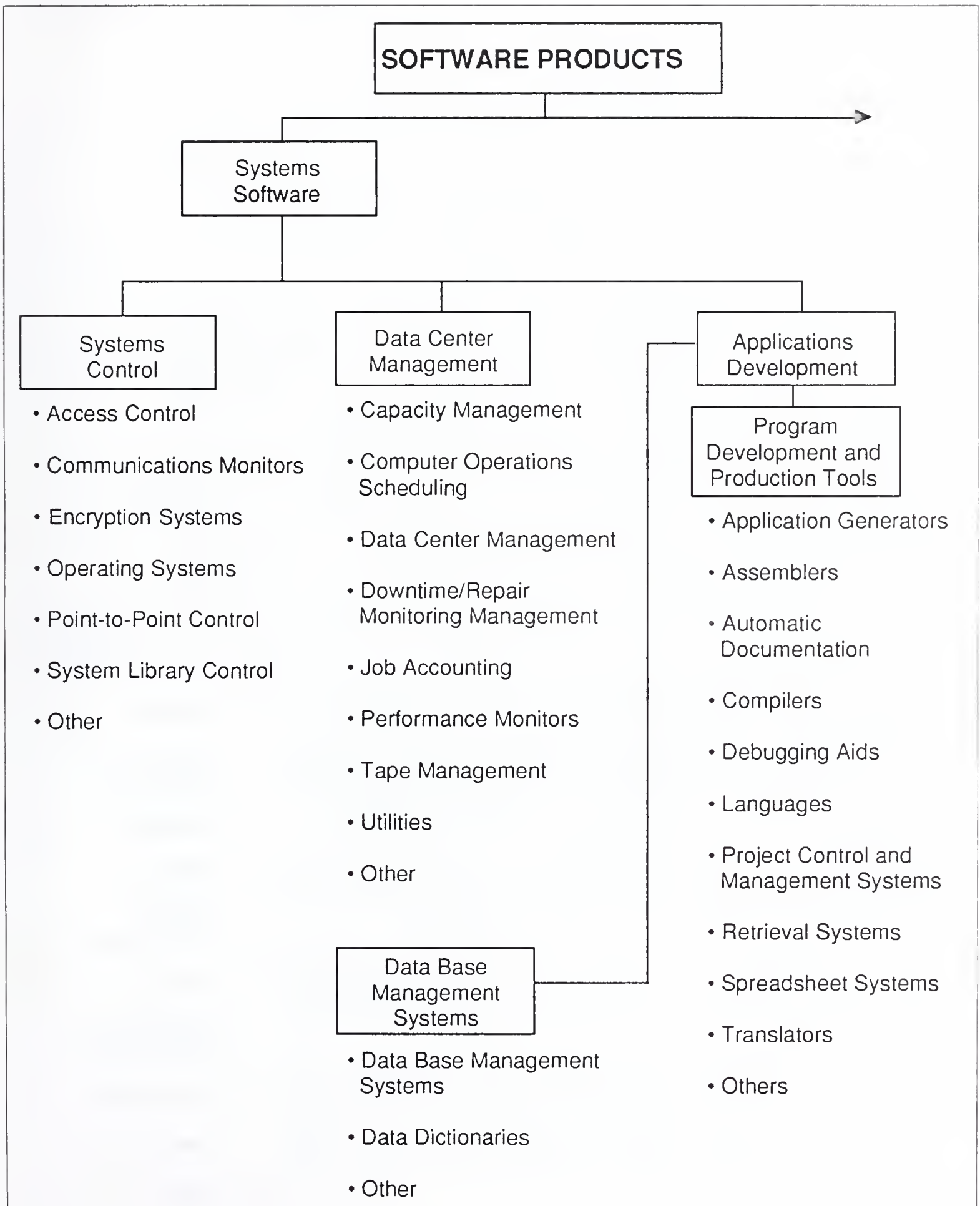
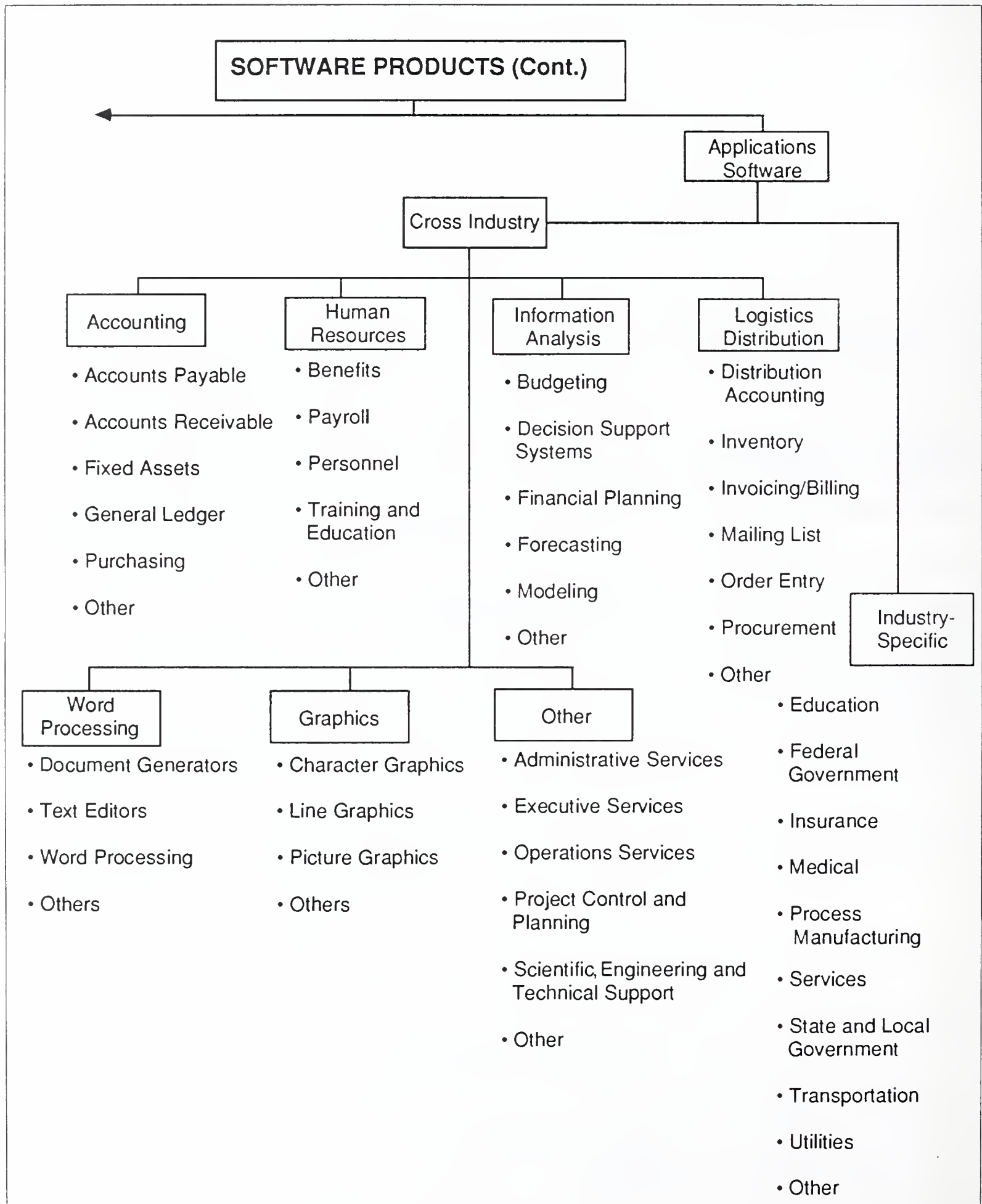


EXHIBIT B-2 (Cont.)



- *Applications Products* - Software that performs functions directly related to solving user's business or organizational need. The products can be:
 - *Cross-Industry Products* - Used in multiple-industry applications as well as the federal government sector. Examples are payroll, inventory control, and financial planning.
 - *Industry-Specific Products* - Used in a specific industry sector, such as banking and finance, transportation, or discrete manufacturing. Examples are demand deposit accounting, airline scheduling, and material resource planning.
- *Systems Software Products* - Software that enables the computer/communications system to perform basic functions. These products include:
 - *System Control Products* - Function during applications program execution to manage the computer system resources. Examples include operating systems, communication monitors, emulators, spoolers, network control, library control, windowing, access control.
 - *Data Center Management Products* - Used by operations personnel to manage the computer systems resources and personnel more effectively. Examples include performance measurement, job accounting, computer operations scheduling, utilities, capacity management.
 - *Applications Development Products* - Used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Examples include traditional programming languages 4GLs, sorts, productivity aids, assemblers, compilers, data dictionaries, data base management systems, report writers, project control and CASE systems.

Professional Services - This category includes consulting, education and training, software development, and systems operations as defined below.

- *Software development* - Develops a software system on a custom basis. It includes one or more of the following: user requirements definition, system design, contract programming, documentation, and software maintenance.
- *Education and Training* - Products and/or services related to information systems and services for the user, including computer-aided instruction (CAI), computer-based education (CBE), and vendor instruction of user personnel in operations, programming, and maintenance.

- *Consulting Services* - Information systems and/or services management consulting, project assistance (technical and/or management), feasibility analyses, and cost-effectiveness trade-off studies.
- *Systems Operations (Professional Services)* - This is a counterpart to systems operations (processing services) except the computing equipment is owned or leased by the client, not by the vendor. The vendor provides the staff to operate, maintain, and manage the client's facility.

Turnkey Systems - A turnkey system is an integration of systems and applications software with CPU hardware and peripherals, packaged as a single application (or set of applications) solution. The value added by the vendor is primarily in the software and support. Most CAD/CAM systems and many small-business systems are turnkey systems. This does not include specialized hardware systems such as word processors, cash registers, or process control systems, nor does it include Embedded Computer Resources for military applications. Turnkey systems may be either custom or packaged systems.

- Hardware vendors that combine software with their own general-purpose hardware are not classified by INPUT as turnkey vendors. Their software revenues are included the appropriate software category.
- Turnkey systems revenue is divided into two categories.
 - *Industry-specific systems* - that is, systems that serve a specific function for a given industry sector such as automobile dealer parts inventory, CAD/CAM systems, or discrete manufacturing control systems.
 - *Cross-industry systems* - that is, systems that provide a specific function that is applicable to a wide range of industry sectors such as financial planning systems, payroll systems, or personnel management systems.
- Revenue includes hardware, software, and support functions.

Systems Integration: (SI) delivery of large, complex multi-disciplinary, multi-vendor systems, incorporating some or all of these categories: systems design, programming, integration, equipment, packaged software, communication networks, installation education and training, and SI related professional services and acceptance. Systems integration contracts typically take more than a year to complete and involve a prime contractor assuming risk and accepting full responsibility.

B**Hardware/Hardware Systems**

Hardware - Includes all computer and telecommunications equipment that can be separately acquired with or without installation by the vendor and not acquired as part of an integrated system.

- *Peripherals* - Includes all input, output, communications, and storage devices (other than main memory) that can be connected locally to the main processor, and generally cannot be included in other categories such as terminals.
- *Input Devices* - Includes keyboards, numeric pads, card readers, light pens and track balls, tape readers, position and motion sensors, and analog-to-digital converters.
- *Output Devices* - Includes printers, CRTs, projection television screens, micrographics processors, digital graphics, and plotters.
- *Communication Devices* - Includes modems, encryption equipment, special interfaces, and error control.
- *Storage Devices* - Includes magnetic tape (reel, cartridge, and cassette), floppy and hard disks, solid state (integrated circuits), and bubble and optical memories.

Terminals - Three types of terminals are described below:

- *User-Programmable* - Also called intelligent terminals, including:
 - Single-station or standalone.
 - Multistation shared processor.
 - Teleprinter.
 - Remote batch.
- *User Nonprogrammable*
 - Single-station.
 - Multistation shared processor.
 - Teleprinter.
- *Limited Function* - Originally developed for specific needs, such as point-of-sale (POS), inventory data collection, controlled access, and other applications.

Hardware Systems - Includes all processors from microcomputers to supercomputers. Hardware systems may require type- or model-unique operating software to be functional, but this category excludes applica-

tions software and peripheral devices, other than main memory and processors or CPUs not provided as part of an integrated (turnkey) system.

- *Microcomputer* - Combines all of the CPU, memory, and peripheral functions of an 8-, 16-, or 32-bit computer on a chip in the form of:
 - Integrated circuit package.
 - Plug-in boards with more memory and peripheral circuits.
 - Console including keyboard and interfacing connectors.
 - Personal computer with at least one external storage device directly addressable by the CPU.
 - An embedded computer which may take a number of shapes or configurations.

Microcomputers are primarily single-user computers that cost under \$15,000.

- *Midsized Computer* - Typically a 32- or 64-bit computer with extensive applications software and a number of peripherals in standalone or multiple-CPU configurations for business (administrative, personnel, and logistics) applications; also called a general purpose computer. All Intel 80386, Motorola 68000-based systems, and large multi-user systems are included. Specific systems in this category are: IBM 93XX systems, all Digital VAX series systems, and such common UNIX-based systems as from Apollo and Sun) are also included. Most large shared-logic, integrated office systems—such as those from Wang, Hewlett-Packard, and Groupe Bull—would also be considered midsize systems. Does not include microcomputers (standalone, or shared), embedded systems and CAD/CAM systems.
- *Large Computer* - Presently centered around storage controllers but likely to become bus-oriented and to consist of multiple processors or parallel processors. Intended for structured mathematical and signal processing and typically used with general purpose, VonNeumann-type processors for system control. Usually refers to traditional mainframes (such as IBM 30XX, UNISYS (Sperry) 1100/XX, Honeywell DDPS88, UNISYS (Burroughs) A15, or CDC Cyber series) and supercomputers (such as products from Cray, ETA, Fujitsu, and the new IBM development effort).
- *Supercomputer* - High-powered processors with numerical processing throughput that is significantly greater than the fastest general purpose computers, with capacities in the 100-500 million floating point opera-

tions per second (MFLOPS) range. Newer supercomputers, with burst modes over 500 MFLOPS, main storage size up to 10 million words, and on-line storage in the one-to-three gigabyte class, are labeled Class IV to Class VII in agency long-range plans. Supercomputers fit in one of two categories:

- *Real Time* - Generally used for signal processing in military applications.
- *Non-Real Time* - For scientific use in one of three configurations:
 - ° Parallel processors.
 - ° Pipeline processor.
 - ° Vector processor.
- *Super()computer* - Term applied to micro, mini, and large mainframe computers with performance substantially higher than attainable by VonNeuman architectures.
- *Embedded Computer* - Dedicated computer system designed and implemented as an integral part of a weapon, weapon system, or platform; critical to a military or intelligence mission such as command and control, cryptological activities, or intelligence activities. Characterized by military specifications (MIL SPEC) appearance and operation, limited but reprogrammable applications software, and permanent or semi-permanent interfaces. May vary in capacity from microcomputers to parallel processors computer systems.

C

Telecommunications

Networks - Electronic interconnection between sites or locations that may incorporate links between central computer sites and remote locations and switching and/or regional data processing nodes. Network services typically are provided on a leased basis by a vendor to move data, voice, video, or textual information between locations. Networks can be categorized in several different ways.

- *Common Carrier Network* - A public access network, such as provided by AT&T, consisting of conventional voice-grade circuits and regular switching facilities accessed through dial-up calling with leased or user-owned modems for transfer rates between 150 and 1200 baud.
- *Value-Added Network (VAN)* - (See listing under Section B, Delivery Modes.)
- *Local Area Network (LAN)* - Limited-access network between computing resources in a relatively small (but not necessarily contiguous) area, such as a building, complex of buildings, or buildings distributed within a metropolitan area. Uses one of two signaling methods.

- *Baseband* - Signaling using digital waveforms on a single frequency band, usually at voice frequencies and bandwidth, and limited to a single sender at any given moment. When used for local-area networks, typically implemented with TDM to permit multiple access.
- *Broadband* - Transmission facilities that use frequencies greater than normal voice-grade, supported in local-area networks with RF modems and AC signaling. Also known as wideband. Employs multiplexing techniques that increase carrier frequency between terminals to provide:
 - ° Multiple (simultaneous) channels via FDM (Frequency Division Multiplexing).
 - ° Multiple (time-sequenced) channels via TDM (Time Division Multiplexing).
 - ° High-speed data transfer rate via parallel mode at rates of up to 96,000 baud (or higher, depending on media).
- *Wide Area Network (WAN)* - Limited access network between computing resources in buildings, complexes of buildings, or buildings within a large metropolitan or wide geographical area. Uses baseband or broadband signaling methods.

Transmission Facilities - Includes wire, carrier, coaxial cable, microwave, optical fiber, satellites, cellular radio, and marine cable operating in one of two modes depending on the vendor and the distribution of the network.

- *Mode* - may be either:
 - *Analog* - Transmission or signal with continuous-waveform representation, typified by AT&T's predominantly voice-grade DDD network and most telephone operating company distribution systems.
 - *Digital* - Transmission or signal using discontinuous, discrete quantities to represent data, which may be voice, data, record, video, or text, in binary form.
- *Media* - May be any of the following:
 - *Wire* - Varies from earlier single-line teletype networks, to two-wire standard telephone (twisted pair), to four-wire full-duplex balanced lines.
 - *Carrier* - A wave, pulse train, or other signal suitable for modulation by an information-bearing signal to be transmitted over a communi-

cations system, used in multiplexing applications to increase network capacity.

- *Coaxial Cable* - A cable used in HF (high-frequency) and VHF (very high frequency), single-frequency, or carrier-based systems; requires frequent reamplification (repeaters) to carry the signal any distance.
- *Microwave* - UHF (ultra-high-frequency) multichannel, point-to-point, repeated radio transmission, also capable of wide frequency channels.
- *Optical Fiber* - Local signal distribution systems employed in limited areas, using light-transmitting glass fibers and TDM for multichannel applications.
- *Communications Satellites* - Synchronous earth-orbiting systems that provide point-to-point, two-way service over significant distances without intermediate amplification (repeaters), but requiring suitable groundstation facilities for up- and down-link operation.
- *Cellular Radio* - Network of fixed, low-powered two-way radios that are linked by a computer system to track mobile phone/data set units. Each radio serves a small area called a cell. The computer switches service connections to the mobile unit from cell to cell.

D

General Definitions

103/113 - Bell standard modem for low-speed transmission up to 300 bps, asynchronous, half or full duplex.

212 - Bell standard for medium-speed transmission at 1200 bps, asynchronous or synchronous, half or full duplex.

ASCII - American National Standard Code for Information Interchange—eight-bit code with seven data bits and one parity bit.

Asynchronous - Communications operation (such as transmission) without continuous timing signals. Synchronization is accomplished by appending signal elements to the data.

Bandwidth - Range of transmission frequencies that can be carried on a communications path; used as a measure of capacity.

Baud - Number of signal events (discrete conditions) per second. Typically used to measure modem or terminal transmission speed.

Benchmark - Method of testing proposed ADP system solutions for a specified set of functions (applications) employing simulated or real data inputs under simulated operating conditions.

BPS - Bits per second - also mbps and kbps, million bits per second and thousand bits per second, respectively.

BSC - IBM's binary synchronous communications data link protocol. First introduced in 1968 for use on point-to-point and multipoint communications channels. Frequently referenced as "bisync."

Byte - Usually equivalent to the storage required for one alphanumeric character (i.e., one letter or number).

CBX - Computerized Branch Exchange - a PABX based on a computer system, implying programmability and usually voice and data capabilities.

Central Processing Unit (CPU) - The arithmetic and control portion of a computer; i.e., the circuits controlling the interpretation and execution of computer instructions.

Centrex - Central office telephone services that permit local circuit switching without installation of customer premises equipment. Could be described as shared PBX service.

Circuit Switching - A process that, usually on demand, connects two or more network stations and permits exclusive circuit use until the connection is released; typical of the voice telephone network where a circuit is established between the caller and the called party.

CO - Central Office - local telco site for one or more exchanges.

CODEC - Coder/decoder, equivalent to modem for digital devices.

Constant Dollars - Growth forecasts in constant dollars make no allowance for inflation or recession. Dollar value based on the year of the forecast unless otherwise indicated.

Computer System - The combination of computing resources required to perform the designed functions and which may include one or more CPUs, machine room peripherals, storage systems, and/or applications software.

CPE - Customer Premises Equipment - DCE or DTE located at a customer site rather than at a carrier site such as the local telephone company CO. May include switchboards, PBX, data terminals, and telephone answering devices.

CSMA/CD - Carrier Sense Multiple Access/Collision Detect. Contention protocol used in local-area networks, typically with a multi-point configuration.

Current Dollars - Estimates or values expressed in current-year dollars which, for forecasts, would include an allowance for inflation.

Data Encryption Standard (DES) - 56-bit key, one-way encryption algorithm adopted by NBS in 1977, implemented through hardware ("S-boxes") or software. Designed by IBM with NSA guidance.

Datagram - A self-contained packet of information with a finite length that does not depend on the contents of preceding or following packets.

DCA - IBM's Document Content Architecture - protocols for specifying document (text) format which are consistent across a variety of hardware and software systems within IBM's DISOSS.

DCE - Data Circuit-terminating Equipment - interface hardware that couples DTE to a transmission circuit or channel by providing functions to establish, maintain, and terminate a connection, including signal conversion and coding.

DDCMP - Digital Data Communications Message Protocol - data link protocol used in Digital Equipment Company's DECNET.

DECNET - Digital Equipment Company's network architecture.

Dedicated Circuit - A permanently established network connection between two or more stations; contrast with switched circuit.

DEMS - Digital Electronic Message Service - nationwide common carrier digital networks which provide high-speed, end-to-end, two-way transmission of digitally-encoded information using the 10.6 GHz band.

DIA - IBM's Document Interchange Architecture - protocols for transfer of documents (text) between different hardware and software systems within IBM's DISOSS.

DISOSS - IBM's DIStributed Office Support System - office automation environment, based on DCA and DIA, which permits document (text) transfer between different hardware and software systems without requiring subsequent format or content revision.

Distributed Data Processing - The development of programmable intelligence in order to perform a data processing function where it can be accomplished most effectively through computers and terminals arranged in a telecommunications network adapted to the user's characteristics.

DTE - Data Terminal Equipment - hardware which is a data source or link or both, such as video display terminals that convert user information into data for transmission and reconvert data signals into user information.

EBCDIC - Extended Binary Coded Decimal Interchange Code - eight-bit code typically used in IBM mainframe environments.

EFT - Electronic funds transfer.

Encryption - Electrical, code-based conversion of transmitted data to provide security and/or privacy of data between authorized access points.

End User - One who is using a product or service to accomplish his or her own functions. The end user may buy a system from the hardware supplier(s) and do his or her own programming, interfacing, and installation. Alternately, the end user may buy a turnkey system from a systems house or hardware integrator, or may buy a service from an in-house department or external vendor.

Engineering Change Notice (ECN) - Product changes to improve the product after it has been released to production.

Engineering Change Order (ECO) - The follow-up to ECNs—they include parts and a bill of materials to effect the change in the hardware.

Equipment Operators - Individuals operating computer control consoles and/or peripheral equipment (BLS definition).

Ethernet - Local area network developed by Xerox PARC using baseband signaling, CSMA/CD protocol, and coaxial cable to achieve a 10 mbps data rate.

Facsimile - Transmission and reception of data in graphic form, usually fixed images of documents, through scanning and conversion of a picture signal.

FDM - Frequency Division Multiplexing - a multiplexing method that permits multiple access by assigning different frequencies of the available bandwidth to different channels.

FEP - Front-End Processor - communications concentrator such as the IBM 3725 or COMTEN 3690 used to interface communications lines to host computers.

Field Engineer (FE) - Field engineer, customer engineer, serviceperson, and maintenance person are used interchangeably and refer to the individual who responds to a user's service call to repair a device or system.

Full-Duplex - Bi-directional communications with simultaneous two-way transmission.

General Purpose Computer System - A computer designed to handle a wide variety of problems. Includes machine room peripherals, systems software, and small business systems.

Half-Duplex - Bi-directional communications, but only in one direction at a time.

Hardware Integrator - Develops system interface electronics and controllers for the CPU, sensors, peripherals, and all other ancillary hardware components. The hardware integrator also may develop control system software in addition to installing the entire system at the end-user site.

HDLC - High-level Data Link Control.

Hertz - Number of signal oscillations (cycles) per second - abbreviated Hz.

IBM Token Ring - IBM's local area network using baseband signalling and operating at 4 mbps on twisted-pair copper wire. Actually a combination of star and ring topologies - IEEE 802.5-compatible.

IDN - Integrated Digital Network - digital switching and transmission; part of the evolution to ISDN.

Independent Suppliers - Suppliers of machine room peripherals - usually do not supply general purpose computer systems.

Information Processing - Data processing as a whole, including use of business and scientific computers.

Installed Base - Cumulative number or value (cost when new) of computers in use.

Interconnection - Physical linkage between devices on a network.

Interoperability - The capability to operate with other devices on a network. To be contrasted with interconnection, which merely guarantees a physical network interface.

ISDN - Integrated Services Digital Network - integrated voice and non-voice public network service which is completely digital. Not clearly defined through any existing standards although FCC and other federal agencies are participating in the development of CCITT recommendations.

Keypunch Operators - Individuals operating keypunch machines (similar in operation to electric typewriters) to transcribe data from source materials onto punch cards.

Lease Line - Permanent connection between two network stations. Also known as dedicated or non-switched line.

Machine Repairers - Individuals who install and periodically service computer systems.

Machine Room Peripherals - Peripheral equipment that is generally located close to the central processing unit.

Mainframe - The central processing unit (CPU or units in a parallel processor) of a computer that interprets and executes computer (software) instructions of 32 bits or more. Usually refers to traditional mainframes (such as IBM 30XX, UNISYS (Sperry) 1100/XX, Honeywell DDPS88, UNISYS (Burroughs) A15, or CDC (Cyber series).

MAP - Manufacturing Automation Protocol - seven-layer communications standard for factory environments promoted by General Motors/EDS. Adopts IEEE 802.2 and IEEE 802.4 standards plus OSI protocols for other layers of the architecture.

Mean Time to Repair - The mean of elapsed times from the arrival of the field engineer on the user's site until the device is repaired and returned to user service.

Mean Time to Respond - The mean of elapsed times from the user call for services and the arrival of the field engineer on the user's site.

Message - A communication intended to be read by a person. The quality of the received document need not be high, only readable. Graphic materials are not included.

MMFS - Manufacturing Messaging Format Standard - application-level protocol included within MAP.

Modem - A device that encodes information into electronically transmittable form (MODulator) and restores it to original analog form (DEMODulator).

NCP - Network Control Program - software used in IBM 3705/3725 FEPs for control of SNA networks.

Node - Connection point of three or more independent transmission points which may provide switching or data collection.

Off-Line - Pertaining to equipment or devices that can function without direct control of the central processing unit.

On-Line - Pertaining to equipment or devices under direct control of the central processing unit.

OSI - ISO reference model for Open Systems Interconnection - seven-layer architecture for application, presentation, session, transport, network, data link, and physical services and equipment.

OSI Application Layer - Layer 7, providing end-user applications services for data processing.

OSI Data Link Layer - Layer 2, providing transmission protocols, including frame management, link flow control, and link initiation/release.

OSI Network Layer - Layer 3, providing call establishment and clearing control through the network nodes.

OSI Physical Layer - Layer 1, providing the mechanical, electrical, functional, and procedural characteristics to establish, maintain, and release physical connections to the network.

OSI Presentation Layer - Layer 6, providing data formats and information such as data translation, data encoding/decoding, and command translation.

OSI Session Layer - Layer 5, establishes, maintains, and terminates logical connections for the transfer of data between processes.

OSI Transport Layer - Layer 4, providing end-to-end terminal control signals such as acknowledgements.

Overseas - Not within the geographical limits of the continental United States, Alaska, Hawaii, and U.S. possessions.

PABX - Private Automated Branch Exchange - hardware that provides automatic (electro-mechanical or electronic) local circuit switching on a customer's premises.

PAD - Packet Assembler-Disassembler - a device that enables DTE not equipped for packet switching operation to operate on a packet switched network.

PBX - Private Branch Exchange - hardware which provides local circuit switching on the customer premise.

PCM - Pulse-Code Modulation - modulation involving conversion of a waveform from analog to digital form through coding.

PDN - Public Data Network - a network established and operated by a recognized private operating agency, a telecommunications administration, or other agency for the specific purpose of providing data transmission services to the public.

Peripherals - Any unit of input/output equipment in a computer system, exclusive of the central processing unit.

PPM - Pulse Position Modulation.

Private Network - A network established and operated for one user or user organization.

Programmers - Persons mainly involved in designing, writing, and testing of computer software programs.

Protocols - The rules for communication system operation that must be followed if communication is to be effected. Protocols may govern portions of a network or service. In digital networks, protocols are digitally encoded as instructions to computerized equipment.

Public Network - A network established and operated for more than one user with shared access, usually available on a subscription basis. See related international definition of PDN.

Scientific Computer System - A computer system designed to process structured mathematics, such as Fast Fourier Transforms, and complex, highly redundant information, such as seismic data, sonar data, and radar, with large on-line memories and very high capacity throughput.

SDLC - Synchronous Data Link Control - IBM's data link control for SNA. Supports a subset of HDLC modes.

SDN - Software-Defined Network.

Security - Physical, electrical, and computer (digital) coding procedures to protect the contents of computer files and data transmission from inadvertent or unauthorized disclosure to meet the requirements of the Privacy Act and national classified information regulations.

Service Delivery Point - The location of the physical interface between a network and customer/user equipment.

Simplex - Unidirectional communications.

Smart Box - A device for adapting existing DTE to new network standards such as OSI. Includes PADs and protocol convertors, for example.

SNA - Systems Network Architecture-seven-layer communications architecture designed by IBM. Layers correspond roughly but not exactly to OSI model.

Software - Computer programs.

Supplies - Includes materials associated with the use or operations of computer systems, such as printer paper, keypunch cards, disk packs, and tapes.

Switched Circuit - Temporary connection between two network stations established through dial-up procedures.

Synchronous - Communications operation with separate, continuous clocking at both sending and receiving stations.

Systems Analyst - Individual who analyzes problems to be converted to a programmable form for application to computer systems.

Systems House - Vendor that acquires, assembles, and integrates hardware and software into a total system to satisfy the data processing requirements of an end user. The vendor also may develop systems software products for license to end users. The systems house vendor does not manufacture mainframes.

Systems Integrator - Systems house vendor that develops systems interface electronics, applications software, and controllers for the CPU, peripherals, and ancillary subsystems that may have been provided by a contractor or the government (GFE). This vendor may either supervise or perform the installation and testing of the completed system.

TI - Bell System designation for 1.544 mbps carrier capable of handling 24 PCM voice channels.

TDM - Time Division Multiplexing - a multiplexing method that interweaves multiple transmissions on a single circuit by assigning a different time slot to each channel.

Token Passing - Local area network protocol which allows a station to transmit only when it has the "token," an empty slot on the carrier.

TOP - Technical Office Protocol - protocol developed by Boeing Computer Services to support administrative and office operations as complementary functions to factory automation implemented under MAP.

Turnkey System - System composed of hardware and software integrated into a total system designed to completely fulfill the processing requirements of a single application.

Twisted-Pair Cable - Communications cabling consisting of pairs of single-strand metallic electrical conductors, such as copper wires, typically used in building telephone wiring and some LANs.

Verification and Validation - Process for examining and testing applications and special systems software to verify that it operates on the target CPU and performs all of the functions specified by the user.

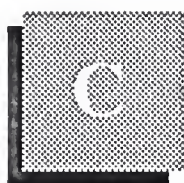
Voice-Grade - Circuit or signal in the 300-3300 Hz bandwidth typical of the public telephone system - nominally a 4 KHz user.

VTAM - Virtual Telecommunications Access Method - host-resident communications software for SNA networks.

E

Other Considerations

When questions arise as to the proper place to count certain user expenditures, INPUT addresses the questions from the user viewpoint. Expenditures then are categorized according to what the users perceive they are buying.



Appendix: Glossary of Acronyms

The federal government's procurement language uses a combination of acronyms, phrases, and words that is complicated by different agency definitions and interpretations. The government also uses terms of accounting, business, economics, engineering, and law with new applications and technology.

Acronyms and contract terms that INPUT encountered most often in program documentation and interviews for this report are included here, but this glossary should not be considered all-inclusive. Federal procurement regulations (DAR, FPR, FAR, FIRMR, FPMR) and contract terms listed in RFIs, RFPs, and RFQs provide applicable terms and definitions.

Federal agency acronyms have been included to the extent they are employed in this report.

A

Federal Acronyms

AAS	Automatic Addressing System.
AATMS	Advanced Air Traffic Management System.
ACO	Administrative Contracting Offices (DCAS).
ACS	Advanced Communications Satellite (formerly NASA 30/20 GHz Satellite Program).
ACT-1	Advanced Computer Techniques (Air Force).
Ada	DoD High-Order Language.
ADA	Airborne Data Acquisition.
ADL	Authorized Data List.
ADS	Automatic Digital Switches (DCS).
AFA	Air Force Association.
AFCEA	Armed Forces Communications Electronics Association.
AGE	Aerospace Ground Equipment.
AIP	Array Information Processing.

AIS	Automated Information System.
AMPE	Automated Message Processing Equipment.
AMPS	Automated Message Processing System.
AMSL	Acquisition Management Systems List.
ANG	Army National Guard.
AP(P)	Advance Procurement Plan.
Appropriation	Congressionally approved funding for authorized programs and activities of the Executive Branch.
APR	Agency Procurement Request.
ARPANET	DARPA network of scientific computers.
ASP	Aggregated Switch Procurement.
ATLAS	Abbreviated Test Language for All Systems (for ATE-Automated Test Equipment).
Authorization	In the legislative process programs, staffing, and other routine activities must be approved by Oversight Committees before the Appropriations Committee will approve the money from the budget.
AUSA	Association of the U.S. Army.
AUTODIN	AUTOMatic DIGital Network of the Defense Communications System.
AUTOSEVOCOM	AUTOMatic SEcure VOice COMmunications Network.
AUTOVON	AUTOMatic VOice Network of the Defense Communications System.
BA	Basic Agreement.
BAFO	Best And Final Offer.
Base level	Procurement, purchasing, and contracting at the military installation level.
BCA	Board of Contract Appeals.
Benchmark	Method of evaluating ability of a candidate computer system to meet user requirements.
Bid protest	Objection (in writing, before or after contract award) to some aspect of a solicitation by a valid bidder.
BML	Bidders Mailing List - qualified vendor information filed annually with federal agencies to automatically receive RFPs and RFQs in areas of claimed competence.
BOA	Basic Ordering Agreement.
B&P	Bid and Proposal - vendor activities in response to government solicitation/specific overhead allowance.
BPA	Blanked Purchase Agreement.
Budget	Federal Budget, proposed by the President and subject to Congressional review.
C ²	Command and Control.
C ³	Command, Control, and Communications.
C ⁴	Command, Control, Communications, and Computers.
C ³ I	Command, Control, Communications, and Intelligence.
CAB	Contract Adjustment Board or Contract Appeals Board.
CADE	Computer-Aided Design and Engineering.
CADS	Computer-Assisted Display Systems.
CAIS	Computer-Assisted Instruction System.
CALS	Computer-Aided Automated Logistic System.
CAPS	Command Automation Procurement Systems.

CAS	Contract Administration Services or Cost Accounting Standards.
CASB	Cost Accounting Standards Board.
CASP	Computer-Assisted Search Planning.
CBD	Commerce Business Daily - U.S. Department of Commerce publication listing government contract opportunities and awards.
CBO	Congressional Budget Office.
CCEP	Commercial Comsec Endorsement Program.
CCDR	Contractor Cost Data Reporting.
CCN	Contract Change Notice.
CCPDS	Command Center Processing and Display Systems.
CCPO	Central Civilian Personnel Office.
CCTC	Command and Control Technical Center (JCS).
CDR	Critical Design Review.
CDRL	Contractor Data Requirement List.
CFE	Contractor-Furnished Equipment.
CFR	Code of Federal Regulations.
CICA	Competition in Contracting Act.
CIG	Computerized Interactive Graphics.
CIR	Cost Information Reports.
CM	Configuration Management.
CMI	Computer-Managed Instruction.
CNI	Communications, Navigation, and Identification.
CO	Contracting Office, Contract Offices, or Change Order.
COC	Certificate of Competency (administered by the Small Business Administration).
COCO	Contractor-Owned, Contractor-Operated.
CODSIA	Council of Defense and Space Industry Associations.
COMSTAT	Communications Satellite Corporation.
CONUS	CONTinental United States.
COP	Capability Objective Package.
COTR	Contracting Officer's Technical Representative.
CP	Communications Processor.
CPAF	Cost-Plus-Award-Fee Contract.
CPFF	Cost-Plus-Fixed-Fee Contract.
CPIF	Cost-Plus-Incentive-Fee Contract.
CPR	Cost Performance Reports.
CPSR	Contractor Procurement System Review.
CR	Cost Reimbursement (Cost Plus Contract).
CSA	Combat or Computer Systems Architecture.
C/SCSC	Cost/Schedule Control System Criteria (also called "C-Spec").
CWAS	Contractor Weighted Average Share in Cost Risk.
DAL	Data Accession List.
DAR	Defense Acquisition Regulations.
DARPA	Defense Advanced Research Projects Agency.
DAS	Data Acquisition System.
DBHS	Data Base Handling System.
DCA	Defense Communications Agency.

DCAA	Defense Contract Audit Agency.
DCAS	Defense Contract Administration Services.
DCASR	DCAS Region.
DCC	Digital Control Computer.
DCP	Development Concept Paper (DoD).
DCS	Defense Communications System.
DCTN	Defense Commercial Telecommunications Network.
DDA	Dynamic Demand Assessment (Delta Modulation).
DDC	Defense Documentation Center.
DDL	Digital Data Link - A segment of a communications network used for data transmission in digital form.
DDN	Defense Data Network.
DDS	Dynamic Diagnostics System.
DECCO	Defense Commercial Communications Office.
DECEO	Defense Communications Engineering Office.
D&F	Determination and Findings - required documentation for approval of a negotiated procurement.
DIA	Defense Intelligence Agency.
DIF	Document Interchange Format, Navy-sponsored word processing standard.
DHHS	Department of Health and Human Services.
DIDS	Defense Integrated Data Systems.
DISC	Defense Industrial Supply Center.
DLA	Defense Logistics Agency.
DMA	Defense Mapping Agency.
DNA	Defense Nuclear Agency.
DO	Delivery Order.
DOA	Department of Agriculture (also USDA).
DOC	Department of Commerce.
DOE	Department of Energy.
DOI	Department of Interior.
DOJ	Department of Justice.
DOS	Department of State.
DOT	Department of Transportation.
DPA	Delegation of Procurement Authority (granted by GSA under FPRs).
DPC	Defense Procurement Circular.
DQ	Definite Quantity Contract.
DQ/PL	Definite Quantity Price List Contract.
DR	Deficiency Report.
DSCS	Defense Satellite Communication System.
DSN	Defense Switched Network.
DSP	Defense Support Program (WWMCCS).
DSS	Defense Supply Service.
DTC	Design-To-Cost.
ECP	Engineering Change Proposal.
ED	Department of Education.
EEO	Equal Employment Opportunity.
8(a) Set-Aside	Agency awards direct to Small Business Administration for direct placement with a socially/economically disadvantaged company.

EMC	Electro-Magnetic Compatibility.
EMCS	Energy Monitoring and Control System.
EO	Executive Order - Order issued by the President.
EOQ	Economic Ordering Quantity.
EPA	Economic Price Adjustment.
EPA	Environmental Protection Agency.
EPMR	Estimated Peak Monthly Requirement.
EPS	Emergency Procurement Service (GSA) or Emergency Power System.
EUC	End User Computing, especially in DoD.
FA	Formal Advertising.
FAC	Facility Contract.
FAR	Federal Acquisition Regulations.
FCA	Functional Configuration Audit.
FCC	Federal Communications Commission.
FCDC	Federal Contract Data Center.
FCRC	Federal Contract Research Center.
FDPC	Federal Data Processing Center.
FEDSIM	Federal (Computer) Simulation Center (GSA).
FEMA	Federal Emergency Management Agency.
FFP	Firm Fixed-Price Contract (also Lump Sum Contract).
FIPS	NBS Federal Information Processing Standard.
FIPS PUBS	FIPS Publications.
FIRMR	Federal Information Resource Management Regulations.
FMS	Foreign Military Sales.
FOC	Final Operating Capability.
FOIA	Freedom of Information Act.
FP	Fixed-Price Contract.
FP-L/H	Fixed-Price - Labor/Hour Contract.
FP-LOE	Fixed-Price - Level-Of-Effort Contract.
FPMR	Federal Property Management Regulations.
FPR	Federal Procurement Regulations.
FSC	Federal Supply Classification.
FSG	Federal Supply Group.
FSN	Federal Supply Number.
FSS	Federal Supply Schedule or Federal Supply Service (GSA).
FSTS	Federal Secure Telecommunications System.
FT Fund	A revolving fund, designated as the Federal Telecommunications Fund, used by GSA to pay for GSA-provided common-user services, specifically including the current FTS and proposed FTS 2000 services.
FTSP	Federal Telecommunications Standards Program administered by NCS; Standards are published by GSA.
FTS	Federal Telecommunications System.
FTS 2000	Proposed replacement for the Federal Telecommunications System.
FY	Fiscal Year.
FYDP	Five-Year Defense Plan.
GAO	General Accounting Office.
GFE	Government-Furnished Equipment.

GFM	Government-Furnished Material.
GFY	Government Fiscal Year (October to September).
GIDEP	Government-Industry Data Exchange Program.
GOCO	Government Owned - Contractor Operated.
GOGO	Government Owned - Government Operated.
GOSIP	Government Open Systems Interconnection Profile.
GPO	Government Printing Office.
GPS	Global Positioning System.
GRH	Gramm-Rudman-Hollings Act (1985), also called Gramm-Rudman Deficit Control.
GS	General Schedule.
GSA	General Services Administration.
GSBCA	General Services Administration Board of Contract Appeals.
HCFA	Health Care Financing Administration.
HHS	(Department of) Health and Human Services.
HPA	Head of Procuring Activity.
HSDP	High-Speed Data Processors.
HUD	(Department of) Housing and Urban Development.
ICA	Independent Cost Analysis.
ICAM	Integrated Computer-Aided Manufacturing.
ICE	Independent Cost Estimate.
ICP	Inventory Control Point.
ICST	Institute for Computer Sciences and Technology, National Bureau of Standards, Department of Commerce.
IDAMS	Image Display And Manipulation System.
IDEP	Interservice Data Exchange Program.
IDN	Integrated Data Network.
IFB	Invitation For Bids.
IOC	Initial Operating Capability.
IOI	Internal Operating Instructions.
IPS	Integrated Procurement System.
IQ	Indefinite Quantity Contract.
IR&D	Independent Research & Development.
IRM	Information Resources Management.
IXS	Information Exchange System.
JFMIP	Joint Financial Management Improvement Program.
JOCIT	Jovial Compiler Implementation Tool.
JSIPS	Joint Systems Integration Planning Staff.
JSOP	Joint Strategic Objectives Plan.
JSOR	Joint Service Operational Requirement.
JUMPS	Joint Uniform Military Pay System.
LC	Letter Contract.
LCC	Life Cycle Costing.
LCMP	Life Cycle Management Procedures (DD7920.1).

LCMS	Life Cycle Management System.
L-H	Labor-Hour Contract.
LOI	Letter of Interest.
LRPE	Long-Range Procurement Estimate.
LRIRP	Long-Range Information Resource Plan.
MAISRC	Major Automated Information Systems Review Council (DoD).
MANTECH	MANufacturing TECHnology.
MAPS	Multiple Address Processing System.
MAP/TOP	Manufacturing Automation Protocol/Technical and Office Protocol.
MASC	Multiple Award Schedule Contract.
MDA	Multiplexed Data Accumulator.
MENS	Mission Element Need Statement or Mission Essential Need Statement (see DD-5000.1 Major Systems Acquisition).
MILSCAP	Military Standard Contract Administration Procedures.
MIL SPEC	Military Specification.
MIL STD	Military Standard.
MIPR	Military Interdepartmental Purchase Request.
MOD	Modification.
MOL	Maximum Ordering Limit (Federal Supply Service).
MPC	Military Procurement Code.
MYP	Multi-Year Procurement.
NARDIC	Navy Research and Development Information Center.
NASA	National Aeronautics and Space Administration.
NBS	National Bureau of Standards.
NCMA	National Contract Management Association.
NCS	National Communications System; responsible for setting U.S. Government standards administered by GSA; also holds primary responsibility for emergency communications planning.
NICRAD	Navy-Industry Cooperative Research and Development.
NIP	Notice of Intent to Purchase.
NMCS	National Military Command System.
NSA	National Security Agency.
NSEP	National Security and Emergency Preparedness.
NSF	National Science Foundation.
NSIA	National Security Industrial Association.
NTIA	National Telecommunications and Information Administration of the Department of Commerce; replaced the Office of Telecommunications Policy in 1970 as planner and coordinator for government communications programs; primarily responsible for radio.
NTIS	National Technical Information Service.
Obligation	"Earmarking" of specific funding for a contract from committed agency funds.
OCS	Office of Contract Settlement.
OFCC	Office of Federal Contract Compliance.
Off-Site	Services to be provided near but not in government facilities.
OFMP	Office of Federal Management Policy (GSA).

OFPP	Office of Federal Procurement Policy.
OIRM	Office of Information Resources Management.
O&M	Operations & Maintenance.
OMB	Office of Management and Budget.
O,M&R	Operations, Maintenance, and Readiness.
On-Site	Services to be performed on a government installation or in a specified building.
OPM	Office of Procurement Management (GSA) or Office of Personnel Management.
Options	Sole-source additions to the base contract for services or goods to be exercised at the government's discretion.
OSHA	Occupational Safety and Health Act.
OSI	Open System Interconnect.
OSP	Offshore Procurement.
OTA	Office of Technology Assessment (Congress).
Out-Year	Proposed funding for fiscal years beyond the Budget Year (next fiscal year).
P-I	FY Defense Production Budget.
P3I	Pre-Planned Product Improvement (program in DoD).
PAR	Procurement Authorization Request or Procurement Action Report.
PAS	Pre-Award Survey.
PASS	Procurement Automated Source System.
PCO	Procurement Contracting Officer.
PDA	Principal Development Agency.
PDM	Program Decision Memorandum.
PDR	Preliminary Design Review.
PIR	Procurement Information Reporting.
PME	Performance Monitoring Equipment.
PMP	Purchase Management Plan.
PO	Purchase Order or Program Office.
POM	Program Objective Memorandum.
POSIX	Portable Open System Interconnection Exchange.
POTS	Purchase of Telephone Systems.
PPBS	Planning, Programming, Budgeting System.
PR	Purchase Request or Procurement Requisition.
PRA	Paperwork Reduction Act.
PS	Performance Specification - alternative to a Statement of Work, when work to be performed can be clearly specified.
QA	Quality Assurance.
QAO	Quality Assurance Office.
QMCS	Quality Monitoring and Control System (DoD software).
QMR	Qualitative Material Requirement (Army).
QPL	Qualified Products List.
QRC	Quick Reaction Capability.
QRI	Quick Reaction Inquiry.
R-I	FY Defense RDT&E Budget.
RAM	Reliability, Availability, and Maintainability.
RC	Requirements Contract.

R&D	Research and Development.
RDA	Research, Development, and Acquisition.
RDD	Required Delivery Date.
RD&E	Research, Development, and Engineering.
RDF	Rapid Deployment Force.
RDT&E	Research, Development, Test, and Engineering.
RFI	Request For Information.
RFP	Request For Proposal.
RFQ	Request For Quotation.
RFTP	Request For Technical Proposals (Two-Step).
ROC	Required Operational Capability.
ROI	Return On Investment.
RTAS	Real Time Analysis System.
RTDS	Real Time Display System.
SA	Supplemental Agreement.
SBA	Small Business Administration.
SB Set-Aside	Small Business Set-Aside contract opportunities with bidders limited to certified small businesses.
SCA	Service Contract Act (1964 as amended).
SCN	Specification Change Notice.
SDN	Secure Data Network.
SEC	Securities and Exchange Commission.
SE&I	Systems Engineering and Integration.
SETA	Systems Engineering/Technical Assistance.
SETS	Systems Engineering/Technical Support.
SIBAC	Simplified Intragovernmental Billing and Collection System.
SIMP	Systems Integration Master Plan.
SIOP	Single Integrated Operations Plan.
SNAP	Shipboard Nontactical ADP Program.
Sole Source	Contract award without competition.
Solicitation	Invitation to submit a bid.
SOR	Specific Operational Requirement.
SOW	Statement of Work.
SSA	Source Selection Authority (DoD).
SSAC	Source Selection Advisory Council.
SSEB	Source Selection Evaluation Board.
SSO	Source Selection Official (NASA).
STINFO	Scientific and Technical INFOrmation Program - Air Force/NASA.
STU	Secure Telephone Unit.
SWO	Stop-Work Order.
Synopsis	Brief Description of contract opportunity in CBD after D&F and before release of solicitation.
TA/AS	Technical Assistance/Analysis Services.
TCP/IP	Transmission Control Protocol/Internet Protocol.

TEMPEST	Studies, inspections, and tests of unintentional electromagnetic radiation from computer, communication, command, and control equipment that may cause unauthorized disclosure of information; usually applied to DoD and security agency testing programs.
TILO	Technical and Industrial Liaison Office—Qualified Requirement Information Program - Army.
TM	Time and Materials contract.
TOA	Total Obligational Authority (Defense).
TOD	Technical Objective Document.
TR	Temporary Regulation (added to FPR, FAR).
TRACE	Total Risk Assessing Cost Estimate.
TRCO	Technical Representative of the Contracting Offices.
TREAS	Department of Treasury.
TRP	Technical Resources Plan.
TSP	GSA's Teleprocessing Services Program.
TVA	Tennessee Valley Authority.
UCAS	Uniform Cost Accounting System.
USA	U.S. Army.
USAF	U.S. Air Force.
USCG	U.S. Coast Guard.
USMC	U.S. Marine Corps.
USN	U.S. Navy.
U.S.C.	United States Code.
USPS	United States Postal Service.
USRRB	United States Railroad Retirement Board.
VA	Veterans Affairs Department.
VE	Value Engineering.
VHSIC	Very High Speed Integrated Circuits.
VIABLE	Vertical Installation Automation BaseLine (Army).
VICI	Voice Input Code Identifier.
WBS	Work Breakdown Structure.
WGM	Weighted Guidelines Method.
WIN	WWMCCS Intercomputer Network.
WITS	Washington Interagency Telecommunications System.
WIS	WWMCCS Information Systems.
WS	Work Statement - Offerer's description of the work to be done (proposal or contract).
WWMCCS	World-Wide Military Command and Control System.

B**General and Industry Acronyms**

ADAPSO	Association of Data Processing Service Organization, now the Computer Software and Services Industry Association.
ADP	Automatic Data Processing.
ADPE	Automatic Data Processing Equipment.
ANSI	American National Standards Institute.
BOC	BELL Operating Company.
CAD	Computer-Aided Design.
CAM	Computer-Aided Manufacturing.
CBEMA	Computer and Business Equipment Manufacturers Association.
CCIA	Computers and Communications Industry Association.
CCITT	Comite Consultatif Internationale de Telegraphique et Telephonique; Committee of the International Telecommunication Union.
COBOL	Common Business-Oriented Language.
COS	Corporation for Open Systems.
CPU	Central Processor Unit.
DMBS	Data Base Management System.
DRAM	Dynamic Random Access Memory.
EIA	Electronic Industries Association.
EPROM	Erasable Programmable Read-Only-Memory.
IEEE	Institute of Electrical and Electronics Engineers.
ISDN	Integrated Services Digital Networks.
ISO	International Organization for Standardization; voluntary international standards organization and member of CCITT.
ITU	International Telecommunication Union.
LSI	Large-Scale Integration.
MFJ	Modified Final Judgement.
PROM	Programmable Read-Only Memory.
RBOC	Regional Bell Operating Company.
UNIX	AT&T Proprietary Operating System.
UPS	Uninterruptable Power Source.
VAR	Value-Added Retailer.
VLSI	Very Large-Scale Integration.
WORM	Write-Once-Read-Many-Times.

C

DLA Acronyms

ACMS	Automated Career Management Systems
ADPER	Automated Data Processing Equipment Replacement Program
ADPFSR	ADP Facility Security Representative
ADPR	Automated Data Processing Resources
ADPSSR	ADP System Security Representative
AFMS	Automated Facilities Management System
AFR	Air Force Regulation
AIMS	Automated Item Management System
AIS	Automated Information System
ALS	Application Level Specification
ALT	Acquisition Lead Time
AM	Acquisition Management
AMHS	Automated Material Handling System
AOB	Annual Operating Budget
APCAPS	Automated Payroll, Cost and Personnel Services
API	Automated Payment of Invoice System
ARMS	Automation Resources Management System
ASD (P&L)	Office Secretary of Defense (Production and Logistics)
AWARES	Automated Warehousing and Retrieval System
BAA	Business Area Analysis
BAR	Business Area Requirements
BEP	Basic Energy Plan
BES	Budget Estimated Submission
BOSS	Base Operations Support System
BPA	Blanket Purchase Agreement
BSP	Business System Planning
C&T	Clothing and Textiles
CAS	Contract Administration Services
CBA	Cost Benefit Analysis
CBE	Critical Baseline Enhancements
CDA	Central Design Activities
CDCS/QEP	Customer Depot Complaint System/Quality Evaluation Program
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CFR	Conceptual Functional Requirements
CIRS	Contractor Inventory Redistribution System
COMPUSEC	Computer Security
COMSEC	Communications Security
CONUS	Continental United States
COOP	Continuation of Operations Plan
CPR	Cost Performance Report
CR	Change Request

C/SCSC	Cost/Schedule Control System Criteria
CSF	Critical Success Factor
C/SSR	Cost/Schedule Status Reports
CTDF	Contracting Technical Data File
CTOL	Cataloging Tools On-Line
CWBS	Contract Work Breakdown Schedule
DAA	Designated Accreditation Authority
DAAS	Defense Automatic Addressing System
DACO	DLA ADP Contracting Office
DACS	DASSO Autodin Control System
DAISRC	DLA Automated Information System Review Council
DAISY	Disposal Automated Information System
DARIC	Defense Automated Resources Information Center
DARO	Defense ADPE Reutilization Office
DARP	DAAS ADPE Replacement Program
DAS	Direct Access Storage
DASA AUX	DAAS Advanced System Architecture Auxiliary System
DASC	DLA Administrative Support Center
DASSO	Defense Automatic Addressing System Office
DCAS	Defense Contract Administration Services
DCASR	Defense Contract Administration Services Region
DCSC	Defense Construction Supply Center
DDCO	Defense Depot Columbus, Ohio
DDMP	Defense Depot Mechanicsburg, Pennsylvania
DDMT	Defense Depot Memphis, Tennessee
DDOU	Defense Depot Odgen, Utah
DDRV	Defense Depot Richmond, Virginia
DDTC	Defense Depot Tracy, California
DEPMED	Deployable Medical System
DEPRA	Defense European and Pacific Redistribution Activity
DESC	Defense Electronics Supply Center
DFAMS	Defense Fuel Automated Management System
DFC	Defense Finance Center
DFSC	Defense Fuel Supply Center
DGSC	Defense General Supply Center
DIADS	DLA Integrated Automated Design System
DID	Data Item Description
DIDS	DLA Inventory Data System
DIIP	Defense Inactive Item System
DIPEC	Defense Industrial Plant Equipment Center
DISMS	Defense Integrated Subsistence Management Office
DLA	Defense Logistics Agency
DLA-A	Directorate of Contract Management
DLA-B	Office of Public Affairs
DLA-C	Office of Comptroller
DLA-G	Office of General Counsel
DLA-I	Office of Command Security

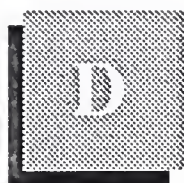
DLA-J	Office of Contracting Integrity
DLA-K	Office of Civilian Personnel
DLA-L	Office of Policy and Plans
DLA-N	Directorate of Stockpile Management
DLA-O	Directorate of Supply Operations
DLA-P	Directorate of Contracting
DLA-Q	Directorate of Quality Assurance
DLA-S	Directorate of Technical and Logistics Services
DLA-W	Office of Installation Services and Environmental Protection
DLA-X	Office of Administration
DLA-Y	Office of Congressional Affairs
DLA-Z	Office of Information Systems and Technology
DLAM	DLA Manual
DLANET	DLA Telecommunication Network
DLAR	Defense Logistics Agency Regulation
DLSC	Defense Logistics Services Center
DMARS	DAASO Micro Automated Routing System
DMCS	Defense Mapping Control System
DMINS	Distributed Minicomputer System
DNCS	DAAS Network Control System
DORAN	DLA's Operations Research Analysis Network
DPI	Data Processing Installation
DPSC	Defense Personnel Support Center
DR	Discrepancy Report
DRD	Document Release Date
DRIS	DoD Retail Interservice Support Program
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing System
DRO	Defense Release Order
DROLS	Defense Research On-Line System
DSAC	DLA Systems Automation Center
DSATS	DLA Standard Automation Transportation System
DSC	Defense Supply Center
DTIC	Defense Technical Information Center
DTIP	DLA Telecommunication and Information Systems Plan
DVD	Direct Vendor Delivery
DWASP	DLA Standard Warehousing and Shipping Procedures System
EA	Economic Analysis
EBCDIC	Extended Binary Coded Decimal Interchange Code
EC	Engineering Changes
ECP	Engineering Change Proposal
ECO	Engineering Change Order
EDASRE	Engineering Drawing Automated Storage and Retrieval Equipment
EDMICS	Engineering Data Management Information Control System
EMACS	Equipment Management Control System
EMR	Executive Management Reviews
EUC	End-User Computing

FCD	Functional Configuration Demonstration
FCS	Federal Catalog System
FD	Functional Description
FDDI	Fiber Digital Device Interface
FEP	Front-End Processor
FF&V	Fresh Fruits and Vegetables
FFAVORS	Fresh Fruits and Vegetables Order and Receipt System
FIIG	Federal Item Identification Group (Guide)
FMS	Federal Military Sales
FRD	Functional Requirements Document
FR&I	Functional Requirements and Integration
FSCM	Federal Supply Code for Managers
FSMSC	Federal Software Management Support Center
FSS	Federal Supply Schedule
FWA	Fraud, Waste and Abuse
GBL	Government Bill of Lading
GFE	Government-Furnished Equipment
GFM	Government-Furnished Material
GFP	Government-Furnished Property
HM	Hazardous Materials
HM/HW	Hazardous Materials/Hazardous Waste
HPMOS	Hazardous Property Management Operations System
HQ	Headquarters
HSB	High Speed Bus
I/S	Information System
I&S	Interchange and Substitutability
IA	Information Architecture
IAW	In Accordance With
ICP	Inventory Control Point
ID	Identification
IDTC	Indefinite Delivery Type Contract
IG	Inspector General
IGCE	Independent Government Cost Estimate
IGES	Initial Graphic Exchange Specification
ILA	Integrated Logistics Analysis
ILCS	International Logistics Communications Systems
ILSP	Integrated Logistics Support Plan
IMC	Integrated Material Complex
IMM	Integrated Materials Manager
IOP	Initial Operating Period
IPG	Issue Priority Group
IPL	Integrated Priority List
IPPP	Industrial Preparedness Planning Program
IPR	In-Process Review
IRIS	Interrogation Requirements Information System

ISA	Information System Architecture
ISMP	Information System Management Plan
ISP	Information System Planning
ISP	Integrated Support Plan
LCC	Life Cycle Cost
LCM	Life Cycle Management
LEAD	Low-Cost Encryption/Authentication Device
LOGMARS	Logistics Marking and Reading System
Long-term	DLA's 1992-2010 Timeframe
LSA	Logistics Support Analysis
LSMP	Logistics Systems Modernization Program
MAISRC	Major Automated Information System Review Council
MAP	Military Assistance Program
MBO	Management by Objectives
MEDALS	Military Engineering Drawing Asset Locator System
MILS	Military Standard Logistics System
MILSCAP	Military Standard Contract Administration Procedures
MILSTAMP	Military Standard Transportation and Movement Procedures
MIL-STD	Military Standard
MILSTRIP	Military Standard Requisitioning and Issue Procedures
MIPR	Military Interdepartmental Purchase Request
MIS	Management Information System
MNS	Mission Need Statement
MOCAS	Mechanization of Contract Administration Services
MODELS	Modernization of Defense Logistics Systems
MOFAST	Mechanization of Freight and Shipping Terminals
MPCASS	Mechanized Parts Control Automated System
MPMS	Master Program Management Schedule
MPN	Manufacturers Part Number
MRD	Management Requirement Document
MRO	Material Release Order
MSS	Mechanized Specification System
MTA	Major Thrust Area
NAIN	Non-Approved Item Name
NCC	Network Control Center
NCSC	National Communication Security Committee
NIPS	Non-Impact Printers
NIR	National Inventory Record
NRFI	Not Ready For Issue
NSN	National Stock Number
O&M	Operations and Maintenance
OASD	Office of the Assistant Secretary of Defense
OJT	On-the-Job Training
OSD	Office of the Secretary of Defense

OST	Order Ship Time
OT&E	Operational Test and Evaluation
OTIS	Office of Telecommunications and Information Systems
P/N	Part Number
PADR	Production Administration Delinquency Report
PALT	Procurement Administration Lead Time
PAS	Pre-Award Survey
PC	Phase Code
PD	Program Director
PDA	Procurement, Defense Agencies
PDP	Project Development Plan
PDR	Preliminary Design Review
PID	Procurement Item Description
PIIN	Procurement Item Identification Number
PLFA	Primary Level Field Activity
PM	Program Manager
PMP	Program Management Plan
PMS	Program Management System
PMSS	Program Management Support System
POM	Program Objective Memorandum
PPSR	Presidential Priority System Review
PR	Purchase Request
PROMAC	Program Managed Contract
PS&C	Program Support and Control
PSE	Principal Staff Element
PSMP	Project Software Management Plan
QAM	Quality Assurance Manager
QAR	Quality Assurance Representative
QEP	Quality Evaluation Program
RB	Recommended Buy
RDF	Revised Delivery Forecasting
RMA	Reliability, Maintainability, Availability
ROSES	Recovery Operations Survey and Equipment Systems
SA&E	Systems Architecture and Engineering
SADB	Subject Area Data Base
SAIS	Standard Automated Information Systems
SAMMS	Standard Automated Materiel Management System
SCM	Secure Communications Module
SCR	System Change Request
SDM	System Decision Memorandum
SDP 4	System Decision Paper 4 - Deployment and Operations
SDP 3	System Decision Paper 3 - Development
SDP 2	System Decision Paper 2 - Design
SDP 1	System Decision Paper 1 - Concept Design

SDP 0	System Decision Paper 0 - Mission Need Statement
SDP	System Decision Paper
SDR	System Design Review
SGML	Standard Graphic Markup Language
SIM	Security Interface Module
SMART	Systems Monitoring and Reporting by Testdata
SMPG	Supply Management Policy Group
SSM	Security Support Module
SSR	Supply Support Request
STIMS	Shared Technical Information Management System
STINFO	Scientific and Technical Information
TCB	Trusted Computing Base
TI	Transition Item
TIR	Total (Transition) Item Record
TISCA	Technical Information Storage and Control Application
TISS	Transportation Information System
TIW	Transition Impact Worksheet
TLDS	Top-Level Design Specification
TP	Test Plan
TRAMS	Transportation (Traffic) Management System Component of DSATS
TSIR	Total System Integration Responsibility
TSR	Telecommunications Service Request
TWR	Technology Work Request
UPS	Uninterruptable Power Supply
WBS	Work Breakdown Structure
WESP	War and Emergency Support Planning
WRM	War Reserve Material



Appendix: Policies, Regulations, and Standards

A

OMB Circulars	A-11	Preparation and Submission of Budget Estimates.
	A-49	Use of Management and Operating Contracts.
	A-71	Responsibilities for the Administration and Management of Automatic Data Processing Activities.
	A-76	Policies for Acquiring Commercial or Industrial Products and Services Needed by the Government.
	A-109	Major Systems Acquisitions.
	A-120	Guidelines for the Use of Consulting Services.
	A-121	Cost Accounting, Cost Recovery, and Integrated Sharing of Data Processing Facilities.
	A-123	Internal Control Systems.
	A-127	Financial Management Systems.
	A-130	Management of Federal Information Resources.
	A-131	Value Engineering.

B

GSA Publications	The FIRMR as published by GSA is the primary regulation for use by federal agencies in the management, acquisition, and use of both ADP and telecommunications information resources.
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C

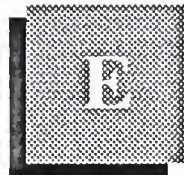
DoD Directives	DD-5000.1	Major System Acquisitions.
	DD-5000.2	Major System Acquisition Process.
	DD-5000.11	DoD Data Elements and Data Codes Standardization Program.
	DD-5000.31	Interim List of DoD-Approved High-Order Languages.
	DD-5000.35	Defense Acquisition Regulatory Systems.
	DD-5200.1	DoD Information Security Program.
	DD-5200.28	Security Requirements for Automatic Data Processing (ADP) Systems.

DD-5200.28-M	Manual of Techniques and Procedures for Implementing, Deactivating, Testing, and Evaluating Secure Resource Sharing ADP Systems.
DD-7920.1	Life Cycle Management of Automated Information (AIS).
DD-7920.2	Major Automated Information Systems Approval Process.
DD-7935	Automated Data Systems (ADS) Documentation.

D**Standards**

ADCCP	Advanced Data Communications Control Procedures; ANSI Standard X3.66 of 1979; also NBS FIPS 71.
CCITT G.711	International PCM standard.
CCITT T.0	International standard for classification of facsimile apparatus for document transmission over telephone-type circuits.
DEA-1	Proposed ISO standard for data encryption based on the NBS DES.
EIA RS-170	Monochrome video standard.
EIA RS-170A	Color video standard.
EIA RS-464	EIA PBX standards.
EIA RS-465	Standard for Group III facsimile.
EIA RS-466	Facsimile standard; procedures for document transmission in the General Switched Telephone Network.
EIA RS-232-C	EIA DCE to DTE interface standard using a 25-Pin connector; similar to CCITT V-24.
EIA RS-449	New EIA standard DTE to DCE interface which replaces RS-232-C.
FED-STD 1000	Proposed Federal Standard for adoption of the full OSI reference model.
FED-STD 1026	Federal Data Encryption Standard (DES) adopted in 1983; also FIPS 46.
FED-STD 1041	Equivalent to FIPS 100.
FED-STD 1061	Group II Facsimile Standard (1981).
FED-STD 1062	Federal standard for Group III facsimile; equivalent to EIA RS-465.
FED-STD 1063	Federal facsimile standard; equivalent to EIA RS-466.
FED-STDs 1005, 1005A-1008	Federal Standards for DCE Coding and Modulation.
FIPS 46	NBS Data Encryption Standard (DES).
FIPS 81	DES Modes of Operation.
FIPS 100	NBS Standard for packet-switched networks; subset of 1980 CCITT X.25.
FIPS 107	NBS Standard for local area networks, similar to IEEE 802.2 and 802.3.

FIPS 146	Government Open Systems Interconnection (OSI) Profile (GOSIP).
FIPS 151	NIST POSIX (Portable Operating System Interface for UNIX) standard.
IEEE 802.2	OSI-compatible IEEE standard for data-link control in local area networks.
IEEE 802.3	Local area network standard similar to Ethernet.
IEEE 802.4	OSI-compatible standard for token-bus local area networks.
IEEE 802.5	Local area networks standard for token-ring networks.
IEEE P1003.1	POSIX standard, similar to FIPS 151.
MIL-STD-188-114C	Physical interface protocol similar to RS-232 and RS-449.
MIL-STD-1777	IP-Internet Protocol.
MIL-STD-1778	TCP - Transmission Control Protocol.
MIL-STD-1780	File Transfer Protocol.
MIL-STD-1781	Simple Mail Transfer Protocol (electronic mail).
MIL-STD-1782	TELNET - virtual terminal protocol.
MIL-STD-1815A	Ada Programming Language Standard.
SVID	UNIX System Interface Definition.
X.12	ANSI standard for Electronic Data Interchange.
X.21	CCITT standard for interface between DTE and DCE for synchronous operation on public data networks.
X.25	CCITT standard for interface between DTE and DCE for terminals operating in the packet mode on public data networks.
X.75	CCITT standard for links that interface different packet networks.
X.400	ISO application-level standard for the electronic transfer of messages (electronic mail).



Appendix: Related INPUT Reports

A

Annual Market Analyses

U.S. Information Services Vertical Markets, 1989.
U.S. Information Services Cross-Industry Markets, 1989.
Procurement Analysis Reports, GFY 1990-1994.

B

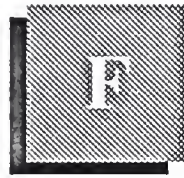
Industry Surveys

1989 Information Services Industry Report.
Directory of Leading U.S. Information Services Vendors, 1988.

C

Market Reports

Federal Computer Security Market, 1989-1994
Federal Large-Scale Systems Markets, 1988-1993.
Federal Professional Services Market, 1989-1994.
Federal Software and Related Services Market, 1989-1994.
Federal Midsize Systems Market, 1988-1993.
Federal Systems Integration Market, 1989-1994.
Federal Processing Services/Systems Operations Market, 1989-1994.
Federal Telecommunications Market, 1988-1993.
Federal Office Information Systems Market, 1988-1993.
Federal Microcomputer Market, 1989-1994.
NASA Information Systems Market, 1988-1993.
U.S. Software Products Markets, 1989-1994.
U.S. Professional Services Market, 1989-1994.
Systems Integration Forecast and Trends, 1988-1993.



Appendix: Questionnaires

INPUT Questionnaires—Definitions

For the purposes of this study, we have defined information systems and services (IS) “for ADP” as follows:

Processing Services - Includes transaction processing, utility processing, other processing services, and systems operations; also referred to as “resource management,” facilities management or “COCO” (contractor-owned, contractor-operated).

Network Services - A wide variety of network-based functions and operations. The common thread is that none of these functions could be performed without network involvement. Network services includes VANS, and network applications (electronic information systems).

Software Products - Includes user purchases of applications and systems software packages for in-house computer systems. Included are lease and purchase expenditures, as well as expenditures for work performed by the vendor to implement or maintain the package at the user’s sites.

Professional Services - Software development, education and training, consulting, and systems operations of client-owned equipment (GOCO) are included in this category.

Turnkey Systems - An integration of systems and applications software with CPU hardware and peripherals, packaged as a single application (or set of applications) solution.

Systems Integration - Delivery of large, complex multi-disciplinary, multi-vendor systems, incorporating some or all of these categories: systems design, programming, integration, equipment, packaged software, communication networks, installation, education and training, and SI related professional services. These contracts usually take at least one year to complete and involve a prime contractor.

Hardware - Includes all computer processors/terminals, and telecommunications equipment that can be separately acquired with or without installation by the vendor and not acquired as part of an integrated system.

Confidential

DLA Information Services Market, 1990-1994—Headquarters/Policy Level Questionnaire

1. In your opinion, in what functional areas has DLA used information technology most effectively over the past three years?

2. Which categories of information systems and services does DLA currently utilize the most? (*read the following list, rank the categories in 1, 2, 3, order, etc., where 1=used the most frequently*)

Indicate Rank

Professional Services	_____
Software Products	_____
Processing Services	_____
Systems Integration	_____
Network Services	_____
Turnkey Systems	_____
Hardware	_____

3. Approximately what percent of DLA's total information systems and services budget, in your opinion, was spent in each of these categories during FY88?

Indicate Percent Spent

Professional Services	_____
Software Products	_____
Processing Services	_____
Systems Integration	_____
Network Services	_____
Turnkey Systems	_____
Hardware	_____

- 4a. Over the past three years has information systems and services (IS) funding been increasing, decreasing, or remaining the same? (*check one*)

Increasing ☐

Decreasing ☐

Remaining the same ☐

Don't know ☐

- 4b. Why?

5. What types of DLA applications have tended to run on different classes of hardware systems?

Application Types	Hardware Classes		
	Mainframes	Midsize	Micros
	<i>(check all that apply for each application type)</i>		
Information Analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human Resources/Payroll	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Word Processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Mail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Publishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Graphics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Logistics/Distribution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accounting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Management Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scientific/Engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Generally, what type of contract has DLA preferred for each type of information systems and services category listed below?

IS Category	Cost Plus	Fixed Price	Fixed Labor	Award Fee	Mix
	<i>(check one contract type for each category)</i>				
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software Products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Network Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- 7a. Does a relationship exist between headquarters information systems planning (ISP) activities and those at DLA field offices? *(check one)*

Yes ☐
 No ☐ *(go to Q8)*

- 7b. How would you characterize the relationship?

8. How does DLA's overall IS planning process support DLA field office modernization efforts?
 Please explain:

- 9a. Have there been any external pressures (i.e. Congressional funding decisions, legislation) that have forced HQ to revise information systems plans? (*check one*)
Yes ☐
No ☐ (*go to Q10a*)
- 9b. Which pressures and how have they affected plans?

- 10a. Do DLA field offices prepare their own IS plans? (*check one*)
Yes ☐
No ☐ (*go to Q11*)
- 10b. To what extent are DLA program managers involved in IS plans?

11. In general, do information systems plans reflect mission goals and objectives, or focus primarily on technology progress within the DLA? (*check one*)
Mission goals ☐
Technology progress ☐
Mix of both ☐
- 12a. Are mission changes or trends driving any changes in information systems and services within DLA? (*check one*)
Yes ☐
No ☐ (*go to Q13*)
Don't know ☐ (*go to Q13*)
- 12b. Please explain:

13. How does DLA relate headquarters information systems oversight to field operating units?
Please explain:

14. Is there any relationship between headquarters information systems oversight and headquarters information systems operations?

Please explain:

15. How would you characterize the level of decentralization of DLA information systems (IS) activities?

Please explain:

- 16a. Have systems integration projects aided in the completion of DLA's mission or objectives? (*check one*)

Yes ☐

No ☐ (*go to Q17a*)

- 16b. If Yes, how? Which projects?

- 16c. Do you expect an increase or decrease in the number of systems integration projects within DLA through FY94? (*check one*)

Increase ☐

Decrease ☐

Remain the same ☐

Don't know ☐

- 17a. Has GSA's advocacy of the "modular approach" to large systems designs affected how the DLA will be meeting large integrated systems requirements through FY94? (*check one*)

Yes ☐

No ☐ (*go to Q18a*)

Don't know ☐ (*go to Q18a*)

- 17b. Which programs are affected and how?

- 18a. Overall, do you anticipate the amount of information systems and services that DLA will procure during the next five years will: *(check one)*

Increase ☐
 Decrease ☐
 Remain the same ☐
 Don't know ☐

- 18b. Why?

19. For each of the following categories, please indicate if you expect an increase or decrease in acquisitions in the next two to five years, and can you estimate by what percent?

	Increase (check one column)	Decrease	Indicate Percent Change
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Software Products	<input type="checkbox"/>	<input type="checkbox"/>	_____
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	_____
Network Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>	_____
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	_____

20. Which field offices are projected to contract for the largest share of the IS budget for FY89? For which programs?
 Specify DLA Office Specify Program Name

_____	_____
_____	_____
_____	_____
_____	_____

21. What do you view as the three most significant DLA initiatives for FY90-94?
 Specify Initiatives:

22. Generally, what types of applications has DLA contracted out to services vendors in the past three years, and what types do you expect to be contracted out through FY94?

	Past	Future
Services	Contracted?	Contracted?
	<i>(check all that apply in each column)</i>	
Information Analysis	<input type="checkbox"/>	<input type="checkbox"/>
Human Resources/Payroll	<input type="checkbox"/>	<input type="checkbox"/>
Word Processing	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Mail	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Publishing	<input type="checkbox"/>	<input type="checkbox"/>
Graphics	<input type="checkbox"/>	<input type="checkbox"/>
Logistics/Distribution	<input type="checkbox"/>	<input type="checkbox"/>
Accounting	<input type="checkbox"/>	<input type="checkbox"/>
Management Systems	<input type="checkbox"/>	<input type="checkbox"/>
Scientific/Engineering	<input type="checkbox"/>	<input type="checkbox"/>
Project Management	<input type="checkbox"/>	<input type="checkbox"/>

23. What future legislation do you foresee impacting DLA's acquisition of information systems and services through FY94, and how?

24. What industry trends and other external factors might impact DLA's acquisitions of computer systems and services (i.e., Ada, AI, teaming, mergers, etc.)

25. Will standards activities have any impact on DLA's acquisition of information services and computer systems through FY94?? If so, which ones, and how have they affected plans?

26. What technological improvements do you foresee altering the way DLA accomplishes information processing during the next 5 years?

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DLA Information Services Market, 1990-1994—Users/Program Managers Questionnaire

1. For which functional areas has your DLA group most effectively used information technology?
Please explain: _____

2. What information systems or services has your group used during FY88? Which do you anticipate using through FY94? (*check all current and future services that apply*)

	Used in FY88 ?	Future Use?
	(<i>check all that apply in each column</i>)	
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>
Software Products	<input type="checkbox"/>	<input type="checkbox"/>
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>
Network Services	<input type="checkbox"/>	<input type="checkbox"/>
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>
Hardware	<input type="checkbox"/>	<input type="checkbox"/>

3. Please estimate the percent of your total information systems and services (IS) budget that was spent in each of these categories during FY88:

	Indicate Percent Spent
Professional Services	_____
Software Products	_____
Processing Services	_____
Systems Integration	_____
Network Services	_____
Turnkey Systems	_____
Hardware	_____

4. Does DLA's overall planning process support your IS modernization efforts? (*check one*)
 Yes ☐
 No ☐
 Please explain: _____

5. Please estimate your group's average annual expenditure for information systems and services over the past 3 years:
 (*enter amount*) _____

- 6a. What level of funding for information systems and services does your group expect to receive for:
 FY89? (*enter amount*) _____
 FY90? (*enter amount*) _____

6b. Over the past three years has funding for information systems and services been increasing, decreasing, or remaining the same? (*check one*)

- Increasing ☐
 Decreasing ☐
 Remaining the same ☐
 Don't know ☐

7a. Overall, do you believe the amount of information systems and services your group will use during the next five years is: (*check one*)

- Increasing ☐
 Decreasing ☐
 Remaining the same ☐
 Don't know ☐

7b. Why?

8a. Are mission changes or trends driving any changes in information systems and services for your group? (*check one*)

- Yes ☐
 No ☐ (*go to Q9*)
 Don't Know ☐ (*go to Q9*)

8b. Please explain:

9. For each of the following categories, please indicate if you expect an increase or decrease in acquisitions over the next two to five years, and can you estimate by what percent?

	Increase (<i>check one column</i>)	Decrease	Indicate Percent Change
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Software Products	<input type="checkbox"/>	<input type="checkbox"/>	_____
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	_____
Network Services	<input type="checkbox"/>	<input type="checkbox"/>	_____
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>	_____
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	_____

10a. Does your organization have plans to add, replace, or upgrade any information systems through FY94? (*check one*)

- Yes ☐
 No ☐ (*go to Q12*)
 Don't Know ☐ (*go to Q12*)

10b. What is the anticipated number of information systems your organization is planning to implement through FY94? (*enter number*) _____

- 10c. What types of hardware will these information systems use? (*check all that apply*)
- Midsize ☐
 Mainframes ☐
 Micros ☐
 Other ☐
11. How does your organization plan to accomplish the change and/or addition of your information systems? (*check all that apply*)
- Buy hardware only ☐
 Buy integrated system(s) ☐
 Buy turnkey system(s) ☐
 Buy hardware separately and use a SI contractor ☐
 Buy hardware separately and do integration in-house ☐
 Buy operational support with hardware ☐
 Move the applications to outside sources such as:
 Other Agency centers ☐
 Remote Computer Services (i.e., TSP) ☐
 Contractor-Owned Contractor-Operated Facilities ☐
 Other (*specify*): _____ ☐
12. What types of applications has your group contracted out to services vendors in the past three years, and what types do you expect to contract out through FY94?
- | Services | Past
Contracted?
(<i>check all that apply in each column</i>) | Future
Contracted? |
|-------------------------|---|--------------------------|
| Information Analysis | <input type="checkbox"/> | <input type="checkbox"/> |
| Human Resources/Payroll | <input type="checkbox"/> | <input type="checkbox"/> |
| Word Processing | <input type="checkbox"/> | <input type="checkbox"/> |
| Electronic Mail | <input type="checkbox"/> | <input type="checkbox"/> |
| Electronic Publishing | <input type="checkbox"/> | <input type="checkbox"/> |
| Graphics | <input type="checkbox"/> | <input type="checkbox"/> |
| Logistics/Distribution | <input type="checkbox"/> | <input type="checkbox"/> |
| Accounting | <input type="checkbox"/> | <input type="checkbox"/> |
| Management Systems | <input type="checkbox"/> | <input type="checkbox"/> |
| Scientific/Engineering | <input type="checkbox"/> | <input type="checkbox"/> |
| Project Management | <input type="checkbox"/> | <input type="checkbox"/> |
- 13a. Has your organization completed any "mission-oriented" contracting for services? (*check one*)
- Yes ☐
 No ☐ (*go to Q14a*)
 Don't know ☐ (*go to Q14a*)
- 13b. If Yes, for which types of applications? _____

14a. Does your office currently support any agency-wide information systems? (*check one*)

- Yes ☐
 No ☐ (*go to Q15*)
 Don't know ☐ (*go to Q15*)

14b. If Yes, which ones? _____

15a. Are there any other major DLA initiatives planned for FY90-94, for which your office will be a participant? (*check one*)

- Yes ☐
 No ☐ (*go to Q16*)
 Don't know ☐ (*go to Q16*)

15b. If Yes, which initiatives? _____

16. What is the typical controlling criteria in selection of contractors by your organization for information systems and services? (*Read the following list, rank the criteria in 1,2,3, order, etc., where 1 means most important, and 5 means least important*)

Criteria	Indicate Rank Order
Contract Type	_____
Risk Containment Procedures	_____
Initial Cost	_____
Technical Solution	_____
Life Cycle Cost	_____
Other (<i>specify</i>): _____	_____

17. Indicate which types of vendors your organization prefers to work with for each category of information systems and services? (*check all that apply*)

Categories	Computer Systems & Services					
	Proc. Svcs.	Net- work Svcs.	Soft- ware Prods.	Prof. Svcs.	Turn- key Sys.	Sys. Intgr- ation
<i>(check all vendor categories that apply)</i>						
Hardware Vendor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integrator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professional Services Firms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software Manufacturers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aerospace Divisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not-For-Profit Organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communications Vendors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. What type contract does your organization prefer for each type of information systems and services category used?

IS Category	Contract Types				
	Cost Plus	Fixed Price	Fixed Labor	Award Fee	Mix
	<i>(check one contract type for each category)</i>				
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software Products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Network Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. When a commercial services contract is completed, does your group usually transfer continued support in-house or leave support functions with contractors? *(check one)*

In-house ☐
 Contractors ☐
 Varies ☐

20. Please specify which support services your organization is planning to convert to in-house or to outside contractor support through FY94 and why?

Specify Service	In-house Support?	Outside Support?	Why?
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	

22. What impact, if any, has Gramm-Rudman and other budget constraints had on your acquisitions of information systems and services?

23. What industry trends and other external factors might impact your acquisitions of information systems and services (i.e., Ada, AI, teaming, mergers, etc.)

24. Have standards activities had any impact on your acquisition of information services and systems? If so, which ones, and how have they affected your plans?

25. What technological improvements do you foresee altering the way your agency accomplishes information processing during the next 5 years?

26. How does DLA relate headquarters IS oversight to field operating units?

27. In your opinion, is there any relationship between headquarters IS oversight and headquarters IS operations?

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DLA Information Services Market, 1990-1994—Vendor Questionnaire

- 1a. Does your company now provide or plan to provide information systems and services to the DLA? (*check one*)
 Yes ☐
 No ☐ (*end*)
- 1b. What information systems and services has your company provided to DLA in FY88? Or plan to provide through FY94? (*check all current and future services that apply*)
- | | Used in
FY88? | Future
Use? |
|--|--------------------------|--------------------------|
| (<i>check all that apply in each column</i>) | | |
| Professional Services | <input type="checkbox"/> | <input type="checkbox"/> |
| Software Products | <input type="checkbox"/> | <input type="checkbox"/> |
| Processing Services | <input type="checkbox"/> | <input type="checkbox"/> |
| Systems Integration | <input type="checkbox"/> | <input type="checkbox"/> |
| Network Services | <input type="checkbox"/> | <input type="checkbox"/> |
| Turnkey Systems | <input type="checkbox"/> | <input type="checkbox"/> |
| Hardware | <input type="checkbox"/> | <input type="checkbox"/> |
| Other (<i>specify</i>): _____ | <input type="checkbox"/> | <input type="checkbox"/> |
2. In your opinion, which categories of information systems and services provides the most attractive opportunities for your company at DLA? (*check all that apply*)
- | | |
|-----------------------|--------------------------|
| Professional Services | <input type="checkbox"/> |
| Software Products | <input type="checkbox"/> |
| Processing Services | <input type="checkbox"/> |
| Systems Integration | <input type="checkbox"/> |
| Network Services | <input type="checkbox"/> |
| Turnkey Systems | <input type="checkbox"/> |
| Hardware | <input type="checkbox"/> |
- 3a. Overall, do you anticipate any changes in the amount of information systems and services your company will provide to DLA through FY94? (*check one*)
 Yes ☐
 No ☐ (*go to Q4*)
 Don't know ☐ (*go to Q4*)
- 3b. If Yes, in which of the following categories do you expect either an increase or decrease in the next few years, and can you estimate by what percent?
- | | Increase | Decrease | Indicate Percent
Change |
|-----------------------------|--------------------------|--------------------------|----------------------------|
| (<i>check one column</i>) | | | |
| Professional Services | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Software Products | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Processing Services | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Systems Integration | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Network Services | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Turnkey Systems | <input type="checkbox"/> | <input type="checkbox"/> | _____ |
| Hardware | <input type="checkbox"/> | <input type="checkbox"/> | _____ |

4. In your opinion, what types of applications has DLA contracted out to services vendors in the past three years, and what types do you expect DLA to contract out through FY94?

Services	Past	Future
	Contracted? (check all that apply in each column)	Contracted?
Information Analysis	<input type="checkbox"/>	<input type="checkbox"/>
Human Resources/Payroll	<input type="checkbox"/>	<input type="checkbox"/>
Word Processing	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Mail	<input type="checkbox"/>	<input type="checkbox"/>
Electronic Publishing	<input type="checkbox"/>	<input type="checkbox"/>
Graphics	<input type="checkbox"/>	<input type="checkbox"/>
Logistics/Distribution	<input type="checkbox"/>	<input type="checkbox"/>
Accounting	<input type="checkbox"/>	<input type="checkbox"/>
Management Systems	<input type="checkbox"/>	<input type="checkbox"/>
Scientific/Engineering	<input type="checkbox"/>	<input type="checkbox"/>
Project Management	<input type="checkbox"/>	<input type="checkbox"/>

- 5a. Has your company ever acquired a contract(s) for support functions which were previously done in-house by DLA? (check one)
 Yes ☐
 No ☐ (go to Q6)

- 5b. Please indicate type of support services:

6. Indicate any differences and similarities your company sees between marketing for products and services to DLA and other sectors of the federal market:

Differences	Similarities
<hr/>	<hr/>
<hr/>	<hr/>
<hr/>	<hr/>

7. Indicate which categories of systems and services your company provides to DLA as a subcontractor, or as a "team" participant? (check all that apply)

Professional Services	<input type="checkbox"/>
Software Products	<input type="checkbox"/>
Processing Services	<input type="checkbox"/>
Systems Integration	<input type="checkbox"/>
Network Services	<input type="checkbox"/>
Turnkey Systems	<input type="checkbox"/>
Hardware	<input type="checkbox"/>

- 8a. Has your company completed any "mission-oriented" contracting for systems and services for DLA? (check one)
 Yes ☐
 No ☐ (go to Q9)

8b. If Yes, for which types of applications?

9. Please indicate any recent systems integration and turnkey systems projects your company has installed at DLA within the past two years, and any new ones that are planned through FY94:

Indicate Project Name	Specify SI, or Turnkey	Recently Installed? (check one column)	Adding New?
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

10. What major programs do you expect DLA to initiate through FY94?
(specify initiatives):

11. What type of contract does your company expect to dominate at DLA for each category of information systems and services through FY94?

IS Category	Cost Plus	Fixed Price	Fixed Labor	Award Fee	Mix
(check one contract type for each IS category)					
Professional Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software Products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Processing Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Network Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turnkey Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardware	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12a. In your opinion, what has been DLA’s controlling criteria in selection of contractors for IS? (Read the following list, rank the criteria in 1, 2, 3, order, etc., where 1 means most important, and 5 means least important)

Criteria	Indicate Rank Order
Contract Type	
Risk Containment Procedures	
Initial Cost	
Technical Solution	
Life Cycle Cost	
Other (specify):	

12b. Do you see this changing?

Please explain:

13. What do you believe vendors need to do over the next five years to make their products and services more valuable to the DLA?

Please explain:

14. What impact, if any, does your company believe Gramm-Rudman and other budget constraints have had on DLA's acquisitions of information systems and services?

Please explain:

15. What industry trends and other external factors might impact DLA's acquisitions of information systems and services? (i.e., Ada, AI, teaming, mergers, etc.)

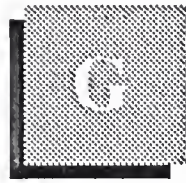
Please explain:

16. Have standards activities had any impact on DLA's acquisition of information services and systems? If so, which ones, and how have they affected DLA's plans?

Please explain:

17. What technological improvements do you foresee altering the way DLA accomplishes information processing during the next 5 years?

Please explain:

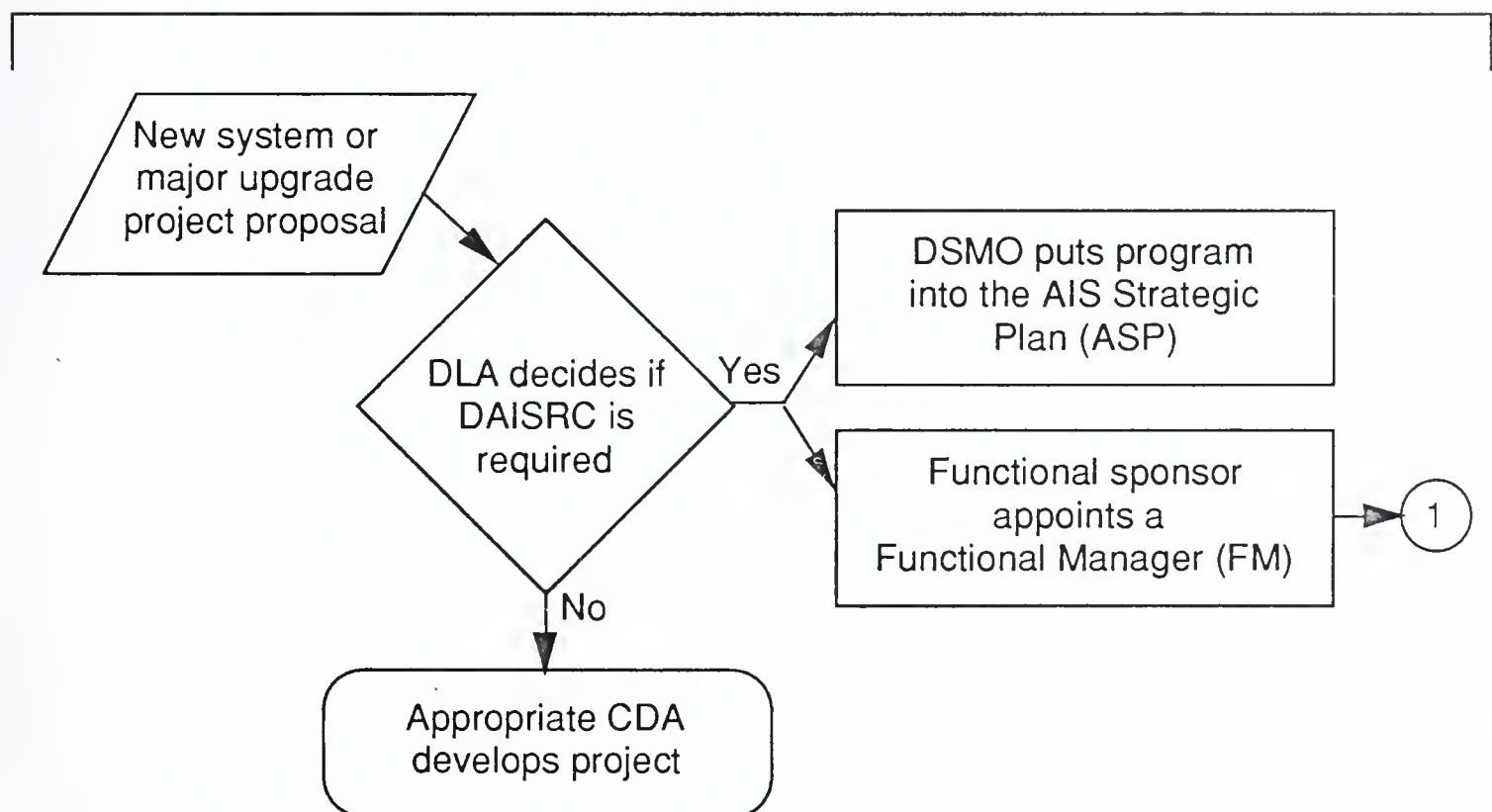


Appendix: Planned DAISRC Approval Process Overview

EXHIBIT G-1

Planned DAISRC Approval Process Overview

Milestone 0



Source: Defense Logistics Agency, August 1989

EXHIBIT G-1 (cont.)

Planned DAISRC Approval Process Overview

Milestone 0

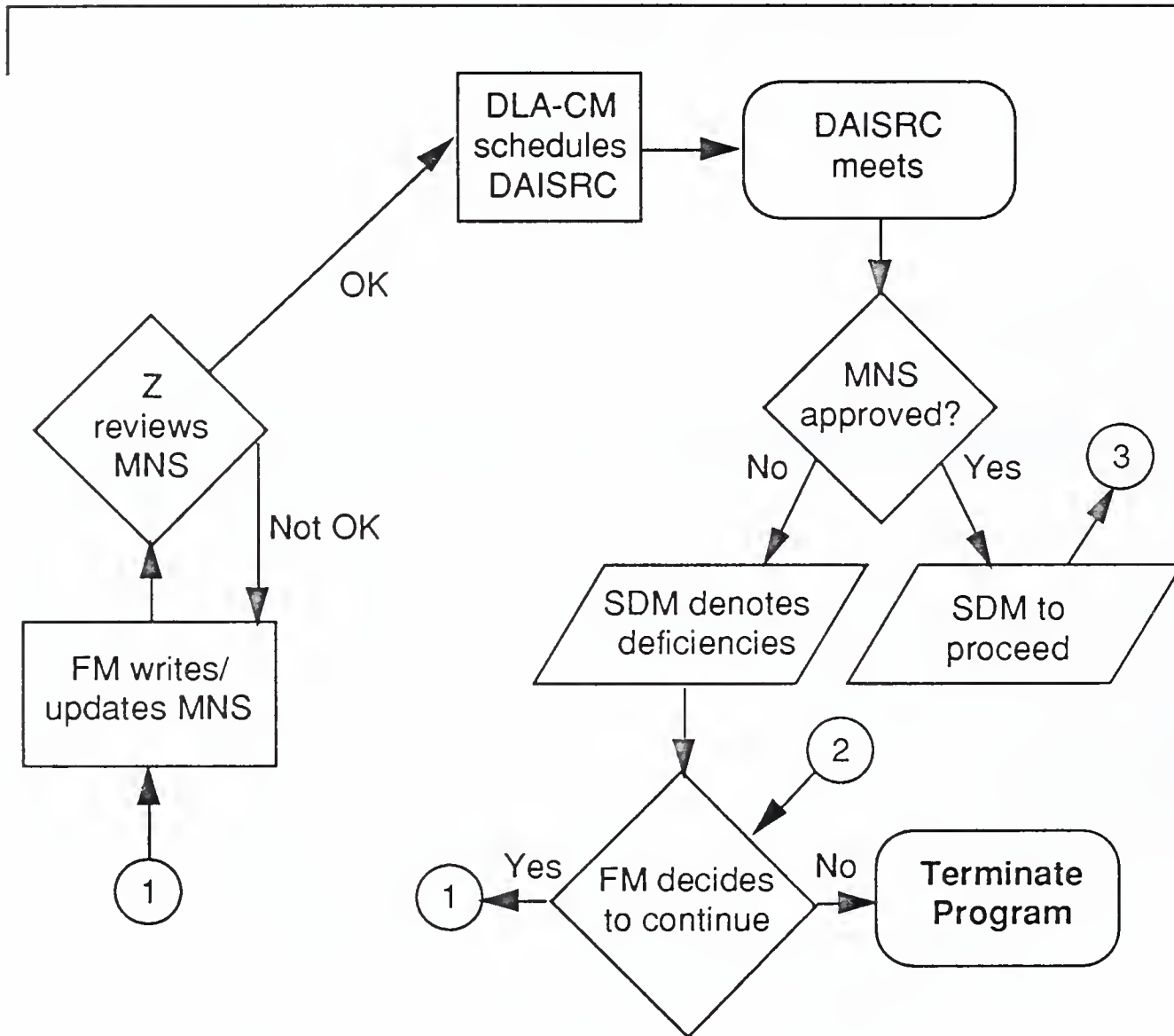


EXHIBIT G-1 (cont.)

Planned DAISRC Approval Process Overview

Milestone 0

Milestone 1

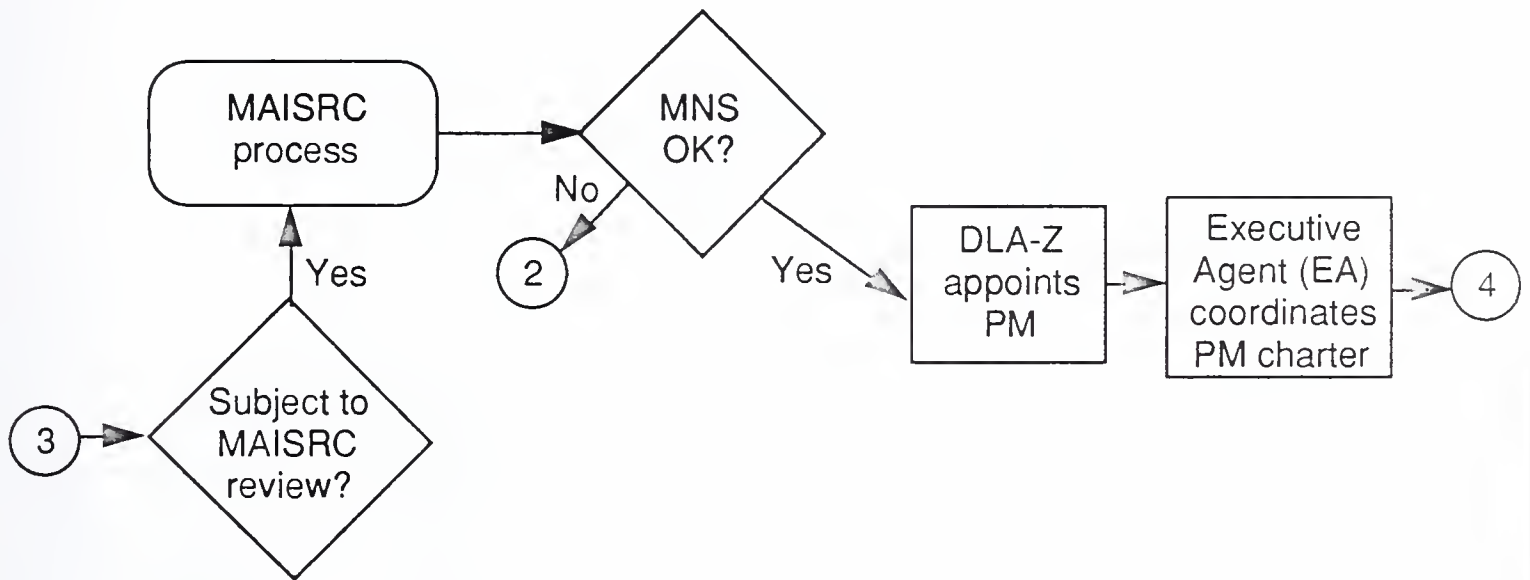


EXHIBIT G-1 (cont.)

Planned DAISRC Approval Process Overview

Milestones 1, 2, 3, 4

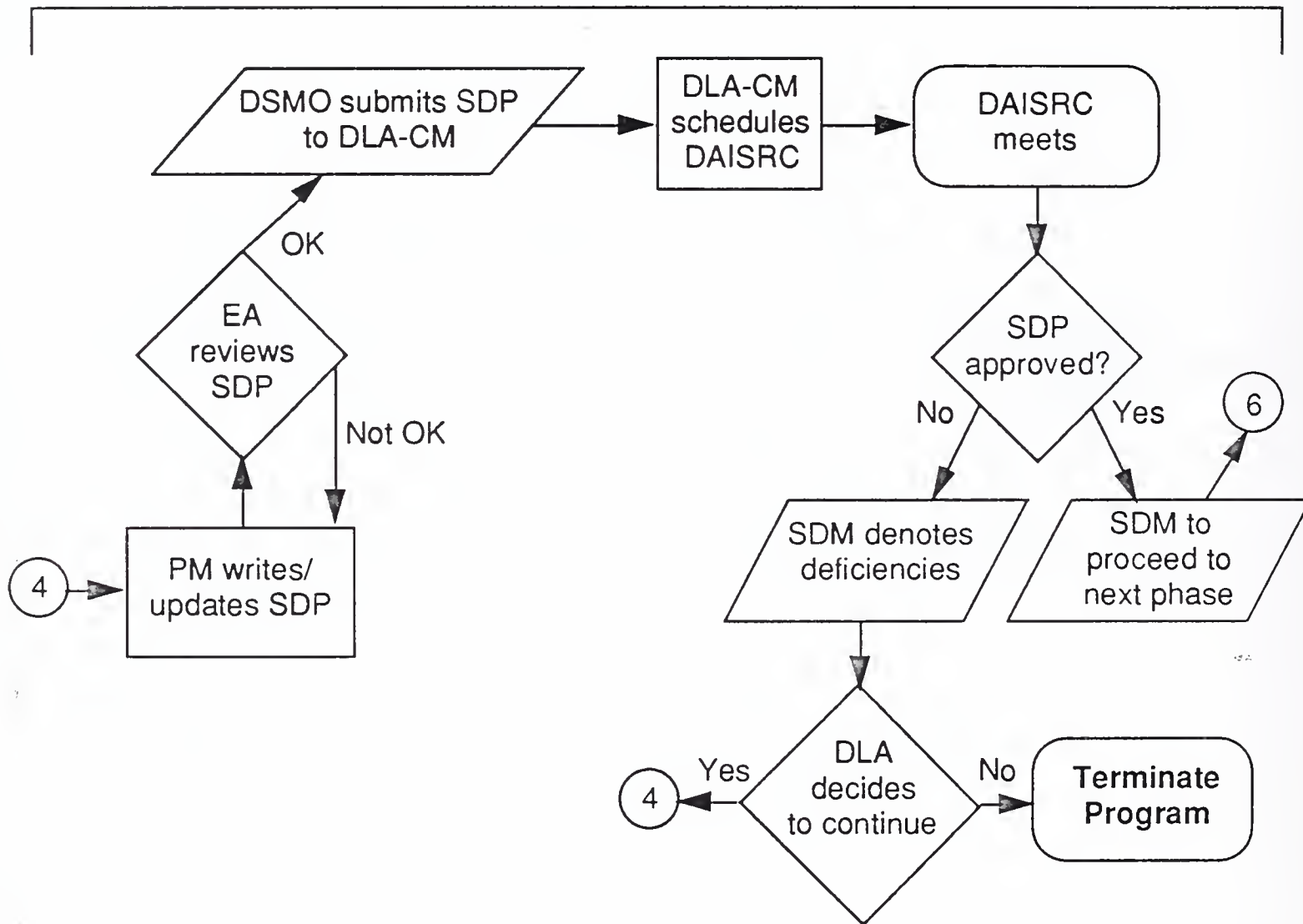


EXHIBIT G-1 (cont.)

